DOCUMENT RESUME

ED 404 504 CE 073 453

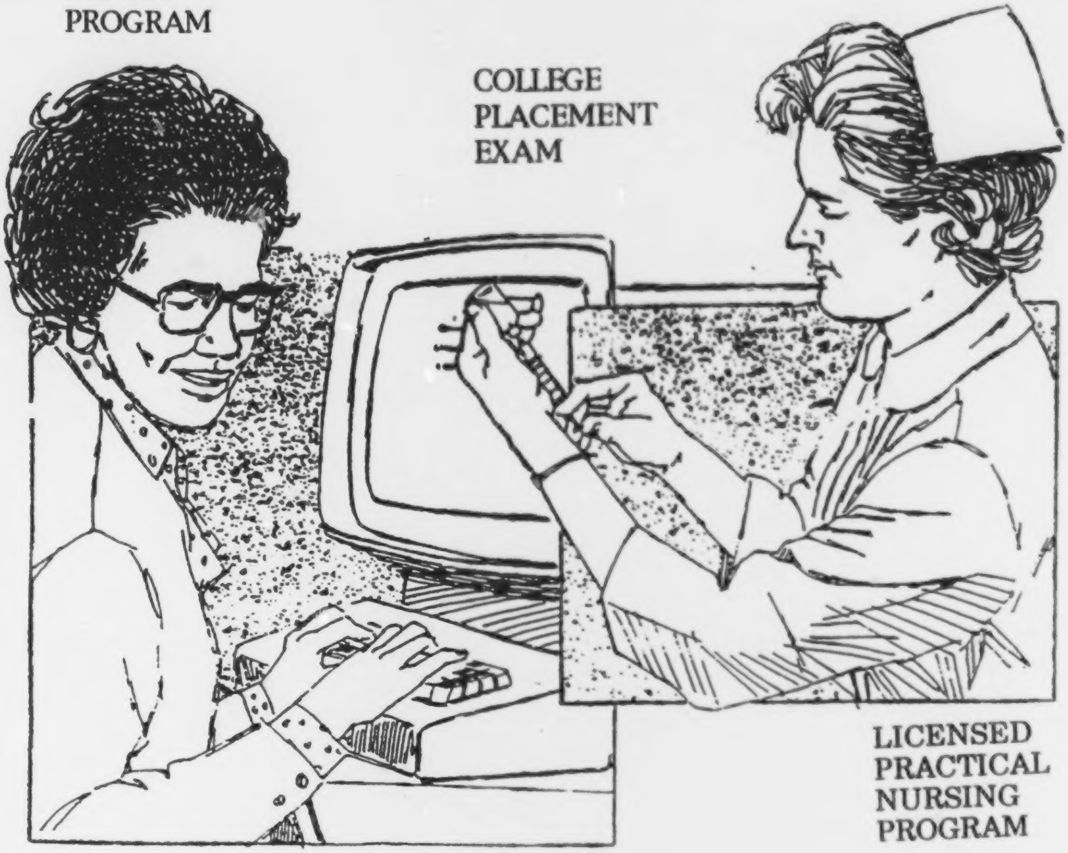
TITLE	Project Tune-Up: A New Look at Project Prepare. Final Report. 1994-1995.
INSTITUTION	Central Intermediate Unit 10, Pleasant Gap, PA.
SPONS AGENCY	Pennsylvania State Dept. of Education, Harrisburg. Bureau of Adult Basic and Literacy Education.
PUB DATE	95
NOTE	427p.
PUB TYPE	Reports - Descriptive (141) -- Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC18 Plus Postage.
DESCRIPTORS	Adult Basic Education; Adult Literacy; Adult Programs; *Adult Students; Aptitude Tests; Basic Skills; *Business Education; Business Skills; *College Entrance Examinations; College Preparation; English; Integrated Curriculum; Learning Activities; Literacy Education; Medical Vocabulary; Nurses; *Practical Nursing; Pretests Posttests; Program Development; Program Effectiveness; Spelling; Student Evaluation; Student Placement; *Test Coaching; Test Validity
IDENTIFIERS	353 Project; Pennsylvania

ABSTRACT

This document includes a report on Project Tune-Up, which was conducted to update Project Prepare, a program to help Pennsylvania adult learners prepare for business school entrance examinations, the PSB [Pennsylvania State Board]-Aptitude for Practical Nursing examination, and college placement examinations. The report describes how the Project Prepare curricula were updated, revised, and pilot tested with 10 students who had completed the licensed practical nursing (LPN) program and were preparing to take the PSB test. The students were administered the simulated PSB test that was developed for Project Prepare and revised for Project Tune-Up. In the three test sections of the PSB reviewed, students' actual PSB scores showed an average decline of 3.8% from scores obtained on the simulated test, which was considered a typical difference in performance on simulated and actual tests. Following the final report is the Project Tune-Up study program, which contains the following: information about the Project Tune-Up study program and guidelines for using it; the simulated business school aptitude test, LPN examination, and college placement tests for mathematics and English; English, vocabulary, and spelling exercises to help students prepare for the examinations; and a 10-item bibliography. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 404 504


BUSINESS
SCHOOL
PROGRAM
COLLEGE
PLACEMENT
EXAM
LICENSED
PRACTICAL
NURSING
PROGRAM

1994-95

PROJECT TUNE-UP:
A NEW LOOK AT PROJECT PREPARE

CE073453

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it
☐ Minor changes have been made to improve reproduction quality
● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

Final Report

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
C Keenan
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Project Tune-Up:
A New Look at Project Prepare

Director: Peggy Keating-Butler
Central Intermediate Unit 10 Development Center for Adults
540 N. Harrison Drive
Pleasant Gap, PA 16824
814-359-3069

Project Contract #098-5009

1994-1995

The activity which is the subject of this report was supported in part by the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement by these agencies should be inferred.

Contents

Abstract i

Introduction 1

Body of the Report
- Statement of the problem 2
- Goals and objectives with which to explore the probem 2
- Procedures employed to study or explore the problem 3
- Objectives Met 3
- Objectives Not Met 14
- The Pilot Testing 14
  - Charts
    - Students' PSB Simulated Test Scores in Academic Aptitude; Spelling; and Natural Science 16
    - Students' Actual PSB Test Scores in Academic Aptitude; Spelling; and Natural Science 17
    - Comparison of Average Scores in Percent Correct Between the Simulated PSB and Actual PSB Exam 18
- The Procedure for Dissemination 19
- Bibliography of Sources Used 19

Abstract Page

Title: Project Tune-Up: A New Look at Project Prepare

Project No: 098-5009 **Funding:** $5000.

Project Director: Peggy Keating-Butler **Phone:** 814-359-3069

Contact Person: Edie Gordon **Phone:** 814-359-3069

Agency Address: 540 N. Harrison Rd., Pleasant Gap, PA 16823

Purpose: To identify changes in the revised entrance examinations for business school, practial nursing and college placement as a basis for updating **Project Prepare** (Gentzler, 1988), a curricula for adult learners to meet entrance level competencies.

Procedures: A) Review entrance examinations for business school, practical nursing and college placement as a basis for updating Project Prepare; B) to update and revise Project Prepare curricula; C) to pilot/evaluate the revised curricula with a minimum of ten students; D) to disseminate the revised curricula materials to 10 ABE/GED classrooms in Centre, Clinton and Clearfield counties.

Summary of Findings: Ten students preparing to take the PSB-Aptitude for Practical Nursing Examination were piloted using Project Tune-Up Curricula. Completing their course of study, these students were administered a simulated PSB test (developed for Project Prepare and revised for Tune-Up). These simulated test scores were then compared with actual PSB test scores to determine the value of the simulated PSB to predict actual PSB test scores. In the three test sections of the PSB reviewed, students actual PSB scores showed an average decline of 3.8 percent from scores obtained on the simulated test.

Comments: Students taking the PSB are allowed to repeat test sections where their scores do not fall within a 50 percentile ranking. The test scores reviewed for the above findings are not all first-time scores.

Products: Five copies of Project Tune-Up: A New Look at Project Prepare--a program for student preparation on entrance level competencies for business school, practical nursing and college placemen were disseminated to AdvancE and 10 copies were disseminated to CIU 10 class sites in Centre, Clinton and Clearfield counties.

Introduction

In 1988 Marilyn Gentsler (Project Director), Susan Swartz and Jo Battaglia developed **Project Prepare: Basic Skills Curricula for Entrance Level Compentencies in the Vocational Training Programs of Licensed Practical Nursing, Business and Veterinarian Assistant.** To develop this curricula, Ms. Gentsler and her associates reviewed standardized tests commonly used to screen applicants for admission into the above-stated vocational programs. The tests they reviewed are as follows:

- Wonderlic;
- Otis Lennon;
- PSB--Aptitude for Practical Nursing Examination;
- Self-Scoring Placement Tests (SSPT) in English and Mathematics. (Multiple Assessment Programs and Services of the College Board.)
- Career Programs Assessment (CPAT)

The purpose of **Project Tune-Up: A New Look at Project Prepare** was to update the curricula specific to any substantive changes made to these tests since 1988 and to incorporate any changes--to curricula or delivery--as experience in providing this program of study should dictate.

Project Tune-Up, however, did not propose to target the veternarian study program for update as teachers at the IU 10 Development Center for Adults had seen virtually no demand for this course. Rather, teachers identified a need for a program to assist college-bound students in preparing for placement exams in English and math. Therefore, this update on **Project Prepare** includes study programs to prepare students for business school and LPN program entrance exams as well as for college placement tests in English and math.

Several people should be acknowledged for their participation in this project. Marilyn Gentsler, Susan Swartz and Jo Battaglia, the developers of **Project Prepare**, must be commended on the excellent study program that has served our students so well over the years. The necessity for its update is a testimony to **Project Prepare's** utility in our classrooms. Donna Hyman must also be acknowedged for writing the proposal and Barbara Rivers for doing background research. Finally, a big thank you is due to Pam Kohl who worked tirelessly on this project as my assistant.

The sources for dissemination of Project Tune-Up: A New Look at Project Prepare are the Bureau of Adult Basic and Literacy Education Programs, Department of Education, 333 Market Street, Harrisburg, PA 17126-0333 and AdvancE, Pennsylvania's clearinghouse for adult education information, also located at 333 Market Street in Harrisburg. Likewise copies are maintained at the Western Pennsylvania Adult Literacy Resource Center.

A. Statement of the problem.

Project Prepare is and has been a much-used resource in the classroom of the CIU 10 Development Center for Adults. Its virtue as a study program for students preparing for entry level competencies has been demonstrated time and again in students' personal acknowledgements to staff and in their test scores. Recently, significant revisions made to the PSB-Aptitude for Practical Nursing Examination demanded comparable revisions be made to our study program. Likewise, teaching staff at the DCA recognized a need to review all tests intially surveyed and from which the program was derived. Additionally, teachers recognized the opportunity to formally implement changes to the study program that they had made throughout the years in response to student needs.

Though not delineated in the original proposal, a probem that I had as director of this project was in interpreting the nature and scope of a "tune up." A "tune-up" or "up-date" would seem to suggest merely the deletion of outdated material and the addition of new. Yet coming to this project (and having not been the author of its proposal), I discovered that I could neither cleanly extract nor insert material--I had to reshape the project anew through my own sensibility. Thus the reader will find considerable change in content and form between Project Tune-Up and Project Prepare. An account of particular changes and rationale for these changes are included in this final report.

B. Goals and objectives with which to explore the problem.

1) To identify changes in the revised entrance examinations for business school, practical nursing and college placement as a basis for updating Project Prepare curricula.

2) To update and revise the Project Prepare basic skills, self-instruction curricula for adult learners to meet changes in the revised examinations for entrance level competencies.

3) To pilot/evaluate the revised Project Prepare curricula with a minimum of ten students.

4) To disseminate the revised curricula materials to 10 ABE/GED classrooms in Centre, Clinton, and Clearfield counties

C. Procedures employed to study or explore the problem.

For four years, as an ABLE instructor at the CIU 10 Development Center for Adults, I have regularly used Project Prepare to provide study materials to students seeking placement in vocational programs. More than anything else, my practical experience and that of other teachers at the DCA, past and present, have provided the basis for the update of this curricula. Experience with students' assessments of the materials, their skill improvements, and their final entrance or placment test scores have directed teachers' attention to the strengths and weaknesses of both the program and our delivery of it. And over the years, we've amended the program to address these assessments. Thus, many of the changes made to Project Prepare are ones we've aready implemented.

Other changes have been made specific to changes in those standardized tests upon which the subject content of Project Prepare was based.

D. Which objectives were met and how.

Following is a thorough account of changes made to existing study guides relevant to changes in the tests upon which they were modeled and discussion on study guides newy created. The organization does not follow that of the presentation of study guides in Project Tune-up but instead an organization that leads to a logical discussion.

Changes to the LPN Study Guide

The PSB Simulated Test

Part 1 of the PSB is the Academic Aptitude, which, as described in the test directions, "measures how well you think and learn." This part contains three types of questions: vocabulary, math and figure analogies. In Part I, the only substantive change to the revised PSB is specific to vocabulary. In the original version, the student was required to choose the word that best fitted the supplied definition:

> An indefinite feeling of bodily uneasiness or illness
> might be described as--
> (A) malaise (B) euphoria (c) resonance
> (D) exhilaration (E) exaltation

In the revised version, the student is required to select from a group of words that word which is most different from the others:

> (A) lessen (B) climb (C) decrease (D) decline (E) subside

To address this change, eleven questions were generated with the use of a thesaurus.

Also in Part I of the simulated PSB, changes were made specific to the depiction of some figure analogies. From experience in grading student tests, teachers at the DCA have identified "problem" questions, ones that have been consistently missed by the majority of test takers. Reasons for these errors have been traced to misaligned or poorly drawn figures. These "problem" analogies (7 in number) have been redepicted.

Part II of the PSB is the Spelling Test. In the original PSB version, one word is presented with four different spellings. From this group, the student was to select the correct spelling. In the revised version, one word is presented with three different spellings. Thus, the revision of Part II of the simulated PSB reflects this format. Additionally, changes were made to the word content. The simulated spelling test of Project Prepare contains general terminolgy only while the PSB test mainly contains words related to the medical field. To reflect this emphasis, a pool of field-related words were included in the spelling test.

Part III of the PSB is Information in the Natural Sciences. This portion of the test contains questions specific to anatomy and natural science. Although no substantive changes were made to the revised PSB, a considerable content change was made to the simulated test contained in **Project Prepare**. As originally developed, the simulated test emphasized questions on anatomy and function, reflecting content provided the student on the human body . However, students taking the PSB after completing **Project Prepare** informed us that Part III of our simulated test did not truly represent the actual test which contained many more questions specific to natural science. Not only that, but these students further commented that they felt ill prepared for these questions, having received no packet material on this subject.

Project Prepare did, in fact, cite sources for a review of natural science. These spanned various texts by adult education publishers (Contemporary, Steck-Vaughn, Cambridge, etc.) and included specific pages for review. Even so, these materials were not being accessed by teachers in preparing students, probably because packet material for distribution had been removed from the manual without comparable consideration for cited sources.

To correct this oversight, DCA teachers preferred a single source on natural science for distribution. An excellent one was found in Alice Mackin's 1991 353 Project: 98-2030 **Science Study Guide**. This guide provides a condensed review of life science, chemistry, physics and other natural science subjects to be found on the PSB. The guide opens with a pre-test, closes with a post-test, and each chapter contains an ending chapter quiz. Thorough yet condensed, this material (only 74 pages one-sided) was easy to reproduce and distribute.

Though not reproduced in **Project Tune-up**, Alice Mackin's **Science Study Guide** is underscored as a vital source in teacher instructions for the PSB study guide. Likewise, Mackin's post-test questions have been integrated into Part III of the simulated test to better reflect those natural sciences questions found on the PSB.

Finally, to suppliment this packet material, students are encouraged to review chapters on natural science contained in GED Science texts. Using these two sources, students no longer report to us on their unpreparedness for the natural science section of the PSB.

LPN Math Review

Project Prepare includes a math review section specific to math questions on the PSB. This review is thorough and provides the student with problems and their solutions in written explanation and depicted computation. Incorporated into this review are word problems for the student to solve followed by solutions. In addition, problems in the review are identified as *type* (for example: ratio) and by *kind* ('how many'). Using this precise classifications, problems are further identified as "Application 1, Application 2" and so on, in order to associate a particular problem with its particular solution. Yet, despite this logical presentation, or perhaps because of it, many students found this packet to be confusing and off-putting.

Students complained to teachers that they didn't understand what was meant by the numbered applications and, of those who did understand, some students found their use tedious. One student in particular was overwhelmed by the instructional method employed. She interpreted the precise delineation among the various kinds of problems in any given type-for example, the 'how much' or 'how many' or 'per unit' kinds of questions specific to ratio problems--as an entire system of differentiated math skills she would have to learn just as she had learned addition, subtraction, etc.

Teachers also found the presentation confusing and too often spent time explaining what was being presented instead of discussing the reasoning behind the solution of any given problem. Clearly this presentation was one that needed to be changed.

If problems surrounded the presentation of the material, they also surrounded its use. Teachers here found that the 8.0 skill level suggested as a prerequisite for supplying this packet to students for review was not in fact an indication of a students preparedness to tackle these problems. Especially when instructors relied upon this material as an instruction tool were problems apparent. Typically students could not learn and apply the skills provided based on the instruction included in the math review.

To address these two problems, two solutions were employed: first, students were not provided the packet until a thorough review of fractions, decimals, and percents, as presented in both computation and application problems, was completed (many DCA teachers prefer Contemporary's *Number Power* Series [2 & 6] to provide this review); and, second, the math component of the LPN study guide was organized according to type only--fractions, decimals, percents, etc.--to avoid the confusion of a myriad of 'applications.'

> NOTE: Math problems presented were taken directly from Project Prepare; however, solution methods were changed specific to certain percent problems (finding a number when a percent is given) These problems were solved with the use of proportion and cross multiplying.

Students responded positively to both changes as seen during class and as reflected in their final PSB math scores.

LPN Geometric Figures Review (Figure Analogies)

Slight changes were made to the review on geometric figures relevant to informal normative assessments: students who have expressed difficulty in understanding some of the analogies as depicted. Problem examples were deleted and new inserted (3). Likewise additonal practice problems (13) were included. Finally, the geometric and math quiz concluding this section was represented in its entirety, again with solutions reflecting the methodolgy for solving some percent problems changed.

LPN Vocabulary

The vocabulary curriculum provided in **Project Prepare** has been significantly expanded in **Project Tune-up**. The former project's vocabulary review looked briefly at "the parts, or structure, of a word." And the rationale given for this approach: "By learning the meanings of the more widely used roots, prefixes, and suffixes in our language, the student can learn the meaning of unknown words." Although this methodology has merit, its academic approach did not adequately serve the needs of most students who preferred a book or list of words to study. I wanted to keep this resource but expand it as well.

To better address the wants of students, I reviewed numerous test preparation texts (SAT, GRE, etc.) to find an A to Z list that was short enough to be digested and yet comprehensive enough to significantly improve the student's vocabulary. Additionally, this list had to reflect the level of vocabulary reflected in the PSB. I found this list in RCO's *Preparation for the SAT.*

Since vocabulary is a component of the PSB as well as the aptitude test adminstered by some business schools and the English placement test for college, I organized the vocabulary curricula into its own study guide. Thus, the Vocabulary study guide contains the etyimological approach contained in the original project; a 500-word vocabulary list; and a verbal drill section.

To prepare students for the nature of the PSB vocabulary and the difficulty level, I developed a Vocabulary Pre-test. This test can further be used as an additional vocabulary list for the student to learn.

LPN Spelling

As with vocabulary, the spelling curricula has been expanded and organized as its own study guide. Since spelling skills are tested in both the PSB and in English college placement exams, this guide is germane to both.

To improve their spelling skills, many students prefer a set of rules to learn, not understanding that spelling skills, for the most part, are acquired through reading and writing and not through the memorization of a host of rules. Even so, these students want something immediate to wrestle. Therefore, included in the study guide is a list of commonly misspelled words (as originally provided in Project Prepare) and a selection of spelling rules (taken from Steck-Vaughn's *Gateways to Correct Spelling*). Additionally, the teacher is instructed to suggest to students that they begin a daily scrutiny of words met everyday in print.

Again, as with vocabulary, a spelling pretest was generated to acquaint the PSB student with the nature of the spelling test. This pretest contains more medical terminology to better reflect the PSB and it can also be used as a study guide. Additionally a list of (taken from South-Western's *A Mnemonics Spelling Approach*) has been included as a study guide.

LPN Anatomy

The study packet on anatomy has been included as originally produced with the exception of minor editing.

LPN Natural Science

The PSB covers too wide a range of information to include undercover of this manual. However, an effective and reproducable resource has been referenced for review. This is Alice Mackin's 1991 353 Project: 98-2030 Science Study Guide. (See earlier explanation in this report on page 4).

Changes to the Business School Study Guides

Project Prepare identified two types of test used by business schools for use as entrance and/or placement exams. These two were identified as Type I, an aptitude test, and Type 2, a basic skills test. The program of study designed to reflect content in the aptitude test was derived from subjects covered in the Wonderlic Scholastic Aptitude Exam.

The basic skills study program reflected subjects covered in the Self-Scoring Placement Tests of the Multiple Assessment Programs and Services (MAPS) and Career Program Assessment (CPAT).

Changes to Wonderlic Scholastic Aptitude Test

The Wonderlic Scholastic Aptitude test was revised in 1992 but ony to accommodate small changes relevant to findings from normative testing done to identify problem questions (those that most students either answer incorrectly or skip over). In its scope and nature, the test has not changed.

Still, changes were made to the Business School study guide, but these reflect teachers' experience in using the program.

Aptitude Simulated Exam

The simulated general mental ability exam is produced here as originally developed but with minor editing and cosmetic changes (i.e., typos corrected; geometric forms enlarged, etc.)

Aptitude Math Exercises

The math study material was edited and reorganized. Rationale for these changes is the same as that for making changes to the math exercises in the LPN study guide (see pages 5 and 6).

Aptitude Form Perception

Form perception content is produced as originally developed but with minor changes in layout.

Aptitude Verbal Abiities

Verbal abilities content is produced as originally developed but with some changes to content and organization. The lengthy opening discussion on reasoning skill was deleted and replaced with a more concise introduction. And specific to organization: solution keys were moved from the end to immediately following the problem exercises. This change was intended to better separate the various subject reviews (reasoning skills; verbal analogies; word meaning; synonyms and antonyms; visual discrimination; and idioms) and to make answer retrieval easier.

Aptitude Vocabulary

A separate study guide on Vocabulary is incuded in Project Tune-up as a resource supplement to the LPN; English College Placement and

Business School (aptitude) study guides. (See page 6 under "Vocabulary" for further information on the content of this guide).

Business School Study Guide for Basic Skills Exam

Project Prepare's study guide for the basic skills test was derived from review of two standardized test: the Multiple Assessment Programs and Services (MAPS) of the College Board and the Career Placement Assessment Test (CPAT). While both test influenced content of the study guide, the simulated test mimics that of the former.

> NOTE: The proposal submitted for **Project Tune-up** states that "the entrance examination for the business school has been replaced with the CPAT . . . ." This statement is, however, somewhat misleading as the author was referring to the standardized test then being adopted by a local business school. No one test is uniformally accepted by all business schools. It should also be noted that **Project Tune-up** was already representative of the CPAT although the format of the simulated test reflected that of the MAPS.

Basic Skills Simluated Exam

Project Prepare's simulated exam was reproduced in its entirety. This exam consists of three areas: written English expression; reading comprehension; and math (computation and applied concepts).

Basic Skills Math Exercises

The math study material was edited and reorganized. Rationale for these changes is the same as that for making changes to the math exercises in the LPN study guide (see pages 5 and 6).

Basic Skills Reading Exercises

The reading portion of the MAPS contains passages that deal with natural science, social sciences, and general and current issues. However, though the simluated exam reflects these subject areas, the practice reading exercises did not. These reading passages and multiple choice questions were entirely derived from works of literary fiction. To better represent the true nature of the test, I replaced half of the exercises with reading pasages taken from GED preparation texts for social science and science.

Basic Skills Written English Expression

The study materials for English (taken from *Cambridge Exercise Book for the Writing Skills Test*) have been retained but organized as a separate study guide rather than as a component of the basic skills review for business school. This change reflects the usefulness of these English exercises for programs additional to business school. Specifically, the thorough review of usage, diction, punctuation and style provided in this English study guide is specific to college placement as well as business school exams.

College Placement Exams for Math and English

College Placement Math Review

Although the scope of the typical English exam can be addressed by the materials provided by most adult education agencies, the same is not true of the math exam which can measure students' skill levels through advanced algebra and trigonometry. Publishers of adult education texts do not typically cover advanced algebra or trigonometry. Likewise, teachers of adult education are not required to possess expertise in these areas. Finally, a student without background in advanced algebra or trigonometry could not reasonably expect to learn this level of math in the time most students allot for a brush-up (one month, from my experience). For these reasons, the math review presented in Project Tune-up covers basic math, geometry and algebra.

The wide breadth of such a review demanded a concise yet thorough presentation, one best adopted from a published text. After reviewing a variety of texts such as those published for preparation of the SAT or GRE, I found the most useful to be Arco's *Nursing School Entrance Examinations*. The math review in this text not only covers the areas from basic math through basic agebra, it aso provides study guideines which, as is stated in the text, provides "the major mathematics concepts needed for successful performance on your examination." This feature in addition to the series of math tests, answer sheets and solution keys, complete with depicted computation and written explanations, was by far the superior presentation of those texts surveyed.

College Placement English Review

The scope and nature of college placement tests in math and English vary among institutions. Some colleges use standardized tests like the

Multiple Assessment Programs and Services of the College Board and others use tests developed by the math and English departments within their institution. These tests are used for academic advising and course placement in math and English.

The typical English placement exam will measure the student's skills in spelling; vocabulary, punctuation, grammar and diction. Since these subjects are common to other exams as well, materials for review of these areas were organized into separate study guides: English, Vocabulary, and Spelling.

--English (Grammar; usage; written expression)

As expained above, the study materials for the English component of the Business School (Basic Skills) study guide was originally derived from the *Cambridge Exercise Book for the Writing Skills Test* (1981). Selected from this text was review material for both grammar and usage and written expression.

Teachers at the DCA have found these English exercises to be an extremely effective resource in preparing students for entrance and placement tests. Additionally, in format, the exercises reflect the test format of the MAPS--typically used as an entrance/placement instrument. For this reason, no final test was developed to mimic such an exam. Rather, the teacher is instructed to provide a comprehensive assessment test like that which can be found prefacing many language skills texts and workbooks.

--Vocabulary

The Vocabulary Study Guide contains the etyimological approach to learning vocabulary; a 500-word vocabulary list; and a verbal drill section.

--Spelling

The Spelling study guide contains a list of commonly misspelled or confused words and a list of spelling rules taken from Steck-Vaughn's *Gateway to Correct Spellng.*

English Study Guide

Material for this guide was taken from the *Cambridge Exercise Book for the Writing Skills Test.*

Vocabulary Study Guide

This guide contains an approximatey 500-word vocabulary list taken from RCO's *Preparation for the SAT* and an etyimological approach to learning vocabulary, reproduced from **Project Prepare**.

Spelling Study Guide

Material for this guide was taken from Steck-Vaughn's *Gateway to Correct Spelling.*

Changes in Organization and in Some Underlying Assumptions

A disclosure of changes to **Project Prepare** would not be sufficient without providing rationale for its revised organization and instructions to the teacher.

Project Prepare was organized by study guide as is **Tune-Up**. However, in the former, each guide was divided between a 'Teacher Guide' and 'Student Guide' with instructions to each. Teacher guides contained suggested bibliographies for all subject areas included in the program of study and respective test materials, and student guides contained study materials prefaced with explanations and instructions. However, in my experience, DCA teachers have themselves provided the necessary explanations to students on using these study guides. In fact, such explanation has been crucial to students understanding of the material. For this reason, student introductions have been deleted. Instead, subject areas within each study guide are prefaced with teacher instructions followed by brief bibliographies.

Perhaps a more significant change between **Project Prepare** and **Tune-Up** is in the underlying assumption that defines the audience for these study materials. **Project Prepare** provides suggested bibliograhies specific to student skill levels 0 and up. Although thorough, this attention to literacy materials does not generally reflect the skill profile of most students seeking preparation for vocational training. As stated earlier, most students allow less than one month's preparation time. And those working within this time schedule but without basic competencies (8 in math and 9.5 in reading) seldom see the program through. Therefore, no literacy materials are suggested for additional study in **Tune-Up**. A further assumption is that students assessed with literacy skills will be provided an educational plan designed to improve their skill levels.

E. Which objectives were not met.

Final simulated math and English tests were not developed for the College Placement study guide. There are two reasons for this: 1) No definitive placement test is extant--different colleges use different instruments, some in-house, and 2) tests are self-contained within the study materials provided.

F. The evaluation instruments/techniques used and the result of the evaluation.

As stated in the original proposal, "The effectiveness of the revised project materials will be evaluated through direct utilization with ten to twenty adult learners interested in enrolling in these particular training areas and then comparing students' predictor test scores with their actual test scores for each entrance examination." To address this objective, pilot students were selected from individuals enrolling in Project Tune-up beginning in January through April, 1995. Of these 25 (5 for business school; 3 for college placement and 17 for LPN), 14 pursued the program to completion as defined by a post-test through our program. However, of these 14, ony 10 pursued the actual entrance exam for enrollment in a vocational program.

To obtain these 10 students entrance scores, we spoke with Mrs. Garver, the director of the LPN program (offered by Centre County Vocational-Technical School). She agreed to provide us access to these scores but as anonymous figures; she woud not match names with scores for reasons of confidentiality.

NOTE: Initially, release statements had not been procured from each participant. This was an oversight and attempts to correct it were only partially successful since only 6 of those students who did test with the LPN program went on to complete their enrollment. Of the four who did not continue, two were no longer at the telephone number provided and one did not return the requested information. For these reasons and for the sake of uniformity, we decided to evaluate these scores anonymousy.

Finally, as has been demonstrated by this example, attrition of students pursuing the LPN program is not unusual. In fact, Mrs. Garver has stated that to enroll as few as 30 students for a program year, she must test applicants from December often through to June with July as the start of the program year. Likewise, many applicants will begin the enrollment process as late as May. In fact, eight more students did prepare with our program in May and June, and five of these did begin the LPN program. However, these students were not been included in this pilot as April was the cut off month to allow for adequate study preparation.

Profile of Simulated-test Scores

The LPN program at Centre County Vocational-Technical School invites applicants to continue with the enrollment process if their scores in each part of the PSB--Academic Aptitude; Spelling; Information in the Natural Sciences; Judgement and comprehension; and Vocational Adjustment--fall within the 50 percentile. **Project Prepare** and now **Tune-up** provides a conversion chart which translates the number correct to a percentile rating. However, since the simulated test does not contain as many questions as the PSB, and for the sake of simplicity, the decision was made to compare student scores by percentage correct. Scores are listed specific to the Academic Aptitude from lowest to highest.

Students' PSB Simulated Test Scores in Academic Aptitude (AA); Spelling (Sp) and Natural Science (NS)

Scores reviewed by the number correct (#c) and percentage correct (pc).

	AA #c/pc	Sp #c/pc	NS #c/pc
Students			
1.	32/53%	16/64%	47/75%
2.	33/55%	12/48%	32/51%
3.	40/67%	16/64%	52/83%
4.	44/73%	12/48%	56/89%
5.	47/78%	17/68%	49/78%
6.	50/83%	17/68%	46/73%
7.	51/85%	19/76%	56/89%
8.	52/87%	24/96%	56/89%
9.	58/97%	17/68%	62/98%
10.	58/97%	23/92%	60/95%
#c for each group out of a total possible . . .	60	25	63

Students' Actual PSB Test Scores in Academic Aptitude (AA); Spelling (Sp) and Natural Science (NS)

Scores reviewed by the number correct (#c) and percentage correct (pc).

	AA #c/pc	Sp #c/pc	NS #c/pc
Students			
1.	36/40%	22/44%	72/80%
2.	54/60%	27/54%	54/60%
3.	55/61%	30/60%	67/75%
4.	60/67%	25/50%	72/80%
5.	67/75%	31/62%	81/90%
6.	72/80%	30/60%	61/68%
7.	76/85%	28/56%	87/97%
8.	79/87%	44/88%	72/80%
9.	82/91%	44/88%	81/90%
10.	85/94%	31/62%	84/93%
#c for each group out of a total possible . . .	90	50	90

Comparison of Average Scores in Percent Correct Between the Simulated PSB and Actual PSB Exam

	Sim PSB	PSB	Difference
AA	77.5	74	-3.5
Sp	69	62	-7
NS	82	81	-1

As is detailed by the above chart, in each test area, students generally declined in their percentage of correct answers between the simulated and actual exam. The smallest drop was by 1% in Natural Science and the largest by 7% in Spelling.

Conclusions

The average of the percentage decline between the Simulated PSB and the PSB is 3.8%--a reasonable decline and one that can be described as typical between many pre or simulated tests and their respective actual tests. (Consider that the typical score decline between a student's Practice GED and GED test has been calculated at 5 points.) Put into this context, the PSB Simulated Exam is a good instrument to predict a student's performance on the PSB.

A final note: Students taking the PSB are allowed to repeat test sections where their scores do not fall within a 50 percentile ranking. The test scores reviewed for the above findings are not all first-time scores.

G. The procedures for dissemination.

Five copies of Project Tune-Up were submitted to the Bureau of Adult Basic and Literacy Education Programs for distribution to AdvancE and the Western Pennsylvania Adult Literacy Resource Center. Ten copies were distributed through various DCA class sites in Centre, Clinton, and Clearfield counties.

H. Bibliography of Sources Used to Generate Project Tune-Up Curricula.

Sources Adapted from Project Prepare

Cambridge Exercise Book for the Writing Skills Test, 1981. New York: Cambridge.

Cambridge Exercise Book for the Mathematics Test, 1982. New York: Cambridge.

Test Your Vocational Aptitude, 1976. New York: Arco.

Project Tune-Up Sources

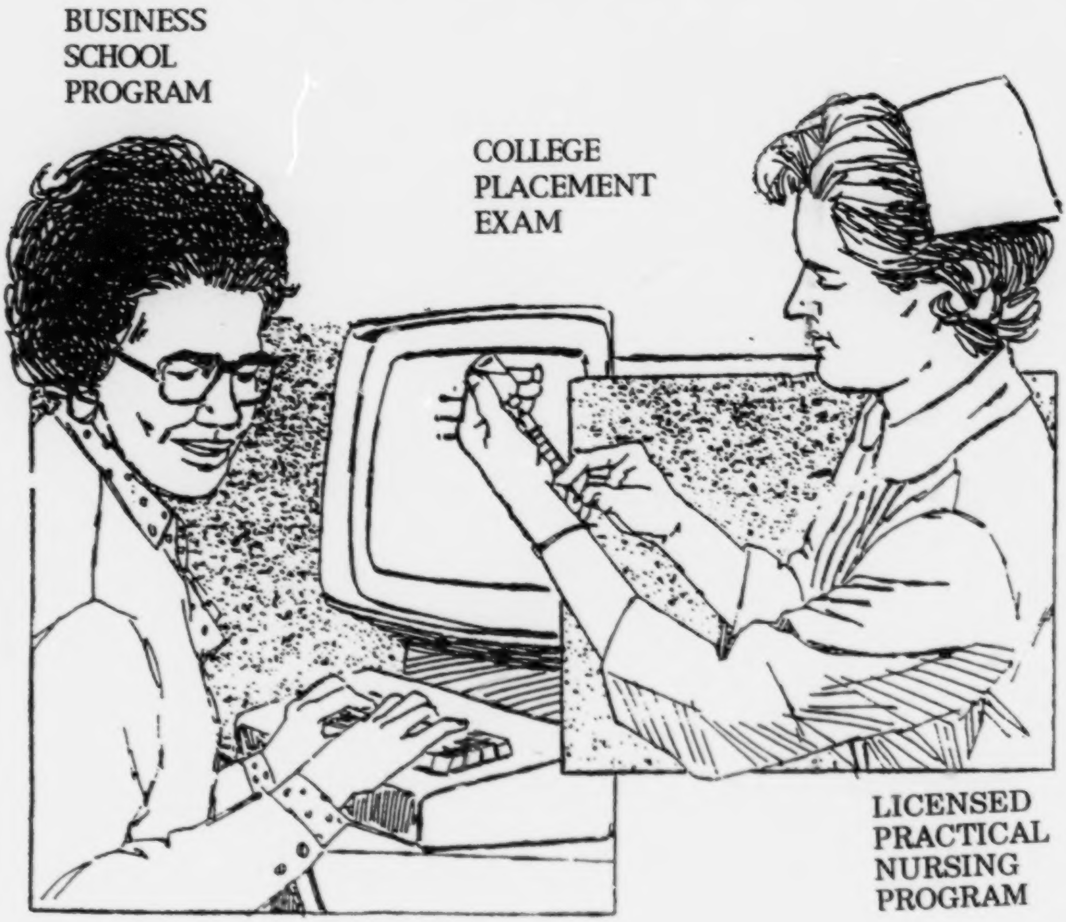
Gateways to Correct Spelling, 1991. Austin: Steck Vaughn.

GED Science, 1991. Austin: Steck Vaughn.

GED Social Studies, 1992. Chicago: Contemporary.

Preparation for the Scholastic Aptitude Test, 1989. New York: Arco.

Nursing School Entrance Examinations, 1994. New York: Macmillan.


BUSINESS SCHOOL PROGRAM
COLLEGE PLACEMENT EXAM
LICENSED PRACTICAL NURSING PROGRAM

PROJECT TUNE-UP:

A NEW LOOK AT PROJECT PREPARE

Project Tune-Up:

A New Look at Project Prepare

Director: Peggy Keating-Butler
Central Intermediate Unit 10 Development Center for Adults
540 N. Harrison Drive
Pleasant Gap, PA 16824
814-359-3069

Project Contract #098-5009

1994-1995

The activity which is the subject of this report was supported in part by the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement by these agencies should be inferred.

Contents

A Note About Methodology i

What Is Project Tune-Up? ii

How To Use This Study Program 1

Business School 5
Basic Skills

Business School 82
Aptitude

Licensed Practical Nursing 115

College Placement 208

English 282

Vocabulary 333

Spelling 363

Bibliography

A Note About Methodology

Teachers at the CIU 10 Development Center for Adults have found that most math students work well in Contemporary's *Number Power* Series. For this reason, I've listed it as a primary source. However, please take note:

> **The methodology for solving math problems included in Project Tune-Up diverges from that used in *Number Power 2* in one area: percents.**

Number Power 2 covers three kinds of percent problems:

--Finding a percent of a number
--Finding what percent one number is of another
--Finding a number when a percent of it is given

The instructional methods employed in **Tune-Up** are the same as that in *Power Number 2* with the exception of--Finding a number when a percent of it is given. This type of percent problem is solved using proportion and cross multiplication. For example:

> Morris has saved \$80 toward buying an air conditioner. If \$80 is 60% of the total price, what is the price of the air conditioner?

Solution: The problem actually tells you that \$80 is equal to 60%. Therefore set up a proportion:

$$\frac{\$80}{X} = \frac{60\%}{100\%}$$

Then multiply on the diagonal without the unknown value (\$80 X 100% or .80 X 1 = 80). Divide this answer by the remaining value:

$$80 \div .6 = \qquad \begin{array}{r} 133. \\ .6\overline{)\,80} \end{array}$$

Answer: \$133.

What is Project Tune-Up?

In 1988 Marilyn Gentsler (Project Director), Susan Swartz and Jo Battaglia developed Project Prepare: **Basic Skills Curricula for Entrance Level Compentencies in the Vocational Training Programs of Licensed Practical Nursing, Business and Veterinarian Assistant.** To develop this curricula, Ms. Gentsler and her associates reviewed standardized tests commonly used to screen applicants for admission into the above-stated vocational programs. The tests they reviewed are as follows:

- Wonderlic;
- Otis Lennon;
- PSB--Aptitude for Practical Nursing Examination;
- Self-Scoring Placement Tests (SSPT) in English and Mathematics. (Multiple Assessment Programs and Services of the College Board.)
- Career Programs Assessment (CPAT)

The purpose of **Project Tune-Up: A New Look at Project Prepare** was to update the curricula specific to any substantive changes made to these tests since 1988 and to incorporate any changes--to curricula or delivery--as experience in providing this program of study should dictate.

Project Tune-Up, however, did not propose to target the veternarian study program for update as teachers at the IU 10 Development Center for Adults had seen virtually no demand for this course. Rather, teachers identified a need for a program to assist college-bound students in preparing for placement exams in English and math. Therefore, this update on **Project Prepare** includes study programs to prepare students for business school and LPN program entrance exams as well as for college placement tests in English and math.

A Side Note

A "tune-up" or "up-date" would seem to suggest merely the deletion of outdated material and the addition of new. Yet coming to this project, I discovered that I could neither cleanly extract nor insert material--I had to reshape the project anew through my own sensibility. Thus the reader will find considerable change in content and form between **Project Tune-Up** and **Project Prepare**. An account of particular changes and rationale for these are included in the final report.

How to Use This Study Program

The materials included in **Project Tune-Up: A New Look at Project Prepare** are intended to acquaint students with the scope and nature of test questions to be encountered in typical entrance and placement exams for business school, college and LPN programs.

> NOTE: The student should come to these materials only after demonstrating competency in reading and language at a 9.5 skill level and an 8.0 skill level in math.

Assessing Student Skill Level

You may find that many ABLE students seeking to prepare for an entrance exam allow less than one month to review all subject areas. (This, at least, has been the experience of teachers at the DCA.)
The time the student has allotted for preparation must play a factor in your choice of an assessment. A student working with the time constraints described should already possess good reading, math and language skills and should require nothing more than a "brush-up." For this individual, administer an assessment that can measure up to 12.9 skill level. Thus, if your program uses the TABE, choose Level D rather than level M (which only measures up to 10.9).

Students who score below a 9.5 in reading/language and below 8.0 in math should be advised of the time they'll need to study prior to beginning the curricula in **Project Tune-Up**.

Our experience as teachers preparing ABLE students for higher learning has been that students almost always require brush-up of basic skills before tackling the materials provided in **Project Prepare**. Likewise, we have learned that students who score high (8.0) on an initial assessment are not always prepared to benefit from the enclosed study guides. For example, most students, regardless of their math assessment, will need some review of fractions, decimals, percents, etc., especially specific to word problems. Therefore, even if otherwise indicated by their assessments, always ask your students what areas they want to review. An informal interview will provide you more specific information about your students' needs than any standardized assessment.

How to Integrate these Materials into Your ABLE Classroom

To best integrate these materials into your ABLE classroom, separate student handout materials by subject into manilla folders. For example, the LPN study program would include a folder for math; general science and anatomy; geometric figures; vocabulary; spelling; and judgement. Each folder should contain numerous copies and be kept in an accessible file cabinet. Teacher instructions appear on a cover page prefacing each subject to expain the nature and intended use of the materias within.

Organization of Materials

Project Tune-Up: A New Look at Project Prepare provides study programs for students preparing to take:

- Business School Entrance Exams (two types)
    Aptitude Test or
    Basic Skills Test
- Licenced Practical Nursing Entrance Exam or PSB
- College Placement Exams in English and Math

Content areas covered in these exams are either test specific or are common to one or more of the above exams. For example, knowledge of natural science is specific to the PSB alone whereas spelling is a content area common to both the College (English) Placement and the PBS exam. Therefore, the curricula included in this study program is organized both by test and content area. For this reason you will find six study guides included in this manual:

- Business School (for aptitude test)
- Business School (for basic skills test)
- LPN School (PSB)
- College Placement
- Vocabulary
- Spelling

Curricula specific to Business, LPN, and Placement exams are organized within separate study guides according to the test type. Each study guide opens with a complete listing of content areas covered. Content areas included in the test that are common to other tests as well are indicated by large bullets (for example: • Vocabulary). Study materials for these bulleted areas can be found organized by content name in the second half of the manual. Finally, a bibliography appears in the appendix of commercially prepared texts from which material in this project has been borrowed.

Business School

Basic Skills & Placement

This study guide acquaints the student with the nature and scope of questions to be found on basic skills and placement test--Career Programs Assessment, CPAT; and Mutltiple Assessment Programs and Services of the College Board (MAPS)--commonly administered as entrance exams by some business schools and colleges. Tests of this nature are separated into sections that measure the student's language, reading and math skills. These are timed tests as the simulated tests provided here demonstrate. The test format chosen for this study program reflects that of the MAPS.

Included in this Business School Study Guide

-Simulated SSPT Exam
    Written English Expression
    Reading
    Math (Computation & Applied Concepts)
-Math Exercises
    Computation
    Word Problems
-Reading Exercises

Not Included Here

- English Exercises: See English Study Guide included in this manual.

Basic Skills & Placement
Simulated Exam

The following exam contains three separate test:

- Written English Expression
  - Grammar (Part 1) & Effective Expression (Part 2)
- Reading Comprehension
- Math
  - Computation
  - Applied Concepts

Answer sheets and keys are also provided. No scoring guide is provided since schools vary in their admission standards. However, students should aim for a mimimum of 70% correct responses on each test to assure that they meet most schools' scoring requirements.

Written English Expression

Part I

Directions: Words underlined in the sentences below, may be incorrect. (No sentence contains more than one error.)

When you find an error, select the underline part that must be changed in order to make the sentence acceptable, and mark the corresponding circle on the answer sheet. If there is no error, select d.

Sample Questions	Sample Answers
1. Roger, as well as all his friends, want to (a) become famous in sports, but he's not (b) (c) sure he has the ability. No error (d)	1. a○ b○ c○ d○
2. I'll be leaving just as soon as I finish washing (a) (b) the dishes and wiping off the counter. (c) No error (d)	2. a○ b○ c○ d○

WRITTEN ENGLISH
EXPRESSION
Part I

Time - 10 minutes
20 Questions

1. Betty and Sarah hopes to do better the next time they take the GED Test. No error
a b c d

2. Here is the papers that you want. No error
a b c d

3. Phyllis ate too much tacos; she has an upset stomach. No error
a b c d

4. Our neighbor's vacation starts a week after our's does. No error
a b c d

5. He's the kind of man whom everyone likes. No error
a b c d

6. Regardless of what you say, I still support the womens' rights movement. No error
a b c d

7. The unions representative told the company that we workers will go on strike. No error
a b c d

8. One of the men who work with me have a new car. No error
a b c d

9. The umbrella that is broken belongs to myself. No error
a b c d

10. Helen drunk six cups of coffee and then wondered why she couldn't sleep. No error
a b c d

11. Just between you and me, Nancy is the strangest and most craziest person I know. No error
a b c d

12. If there were any errors, Mrs. Judson would have reported them to me immediately. No error
a b c d

13. Bill wants Kathy and I to help him move into his new apartment. No error
a b c d

14. Not one of the leafs on that plant is free from the strange disease that is killing all the plants. No error
a b c d

15. Do you think that money be a good wedding gift? No error
a b c d

BEST COPY AVAILABLE

Written English Expression

Part 2

Directions: Some part of each of the following sentences is underlined. Beneath each sentence you will find four ways of writing the underlined part. The first of these repeats the underlined part in the original sentence, but the other three are all different. If you think the original sentence is better than any of the suggested changes, you should choose answer A; otherwise you should mark one of the other choices. Select the best answer and mark the corresponding circle on the answer sheet.

Choose the answer that produces the most effective sentence - clear and exact, without awkwardness or ambiguity. Do not make a choice that changes the meaning of the original sentence.

Sample Questions	**Sample Answers**
1. If I was a magician, I could get the job done. a. was b. had been c. were d. have been	1. a○ b○ c● d○
2. Alice was four when she first played the piano. a. four when she b. four, when she c. four; when she d. four. when she	1. a● b○ c○ d○

WRITTEN ENGLISH EXPRESSION

Part 2

Time - 15 minutes

20 Questions

21. I used to like Claudia however, now I know better.
    a. Claudia however, now
    b. Claudia however; now,
    c. Claudia however now
    d. Claudia; however, now

22. Bob's dog is not only big but also can be mean.
    a. can be mean
    b. is being mean
    c. mean
    d. may be mean

23. The man who sells used cars for a living is here.
    a. The man who sells used cars for a living
    b. The person who sells used cars for a living
    c. The one selling used cars for a living
    d. The used car salesman

24. Charles was home for several hours before he noticed that the cat was missing.
    a. was home
    b. has been
    c. had been
    d. will be

25. Anyone who wants my job he can have it.
    a. he can have it
    b. they can have it
    c. can have it
    d. he could have it

26. After giving it much thought, David decided the problem had no solution.
    a. David decided the problem had no solution
    b. the problem seemed to have no solution
    c. the problem, to David, was unsolvable
    d. to David the problem was unsolvable

27. Ruth doesn't know either how to cook nor sew.
    a. doesn't know either how to cook nor sew
    b. doesn't know either how to cook or sew
    c. knows not either how to cook nor sew
    d. can't cook nor sew

28. If someone doesn't like the President, you can vote against him in the next election.

    a. you can vote against him in the next election
    b. they can vote against him in the next election
    c. he can vote against him in the next election
    d. can vote against him in the next election.

29. Roger enjoys rock music, he prefers jazz.

    a. music, he
    b. music; so he
    c. music however, he
    d. music, but he

30. The conductor told everyone to get off of the train.

    a. to get off of the train
    b. to get off the train
    c. get off of the train
    d. getting off of the train

31. Brenda asked me to pick her up and that I should take her to the doctor.

    a. that I should take her to the doctor
    b. I should take her to the doctor
    c. take her to the doctor
    d. that I ought to take her to the doctor

32. Dave wanted some popcorn and he bought some.

    a. popcorn and he
    b. popcorn, and he
    c. popcorn, and, he
    d. popcorn; and, he

33. Ken will start his new job as soon as he left the old one.

    a. left
    b. leaves
    c. had left
    d. was leaving

34. The reason you are here is because you are needed.

    a. is because you are needed
    b. is, because, you are needed
    c. is that you are needed
    d. is because we need you

35. As soon as Terry got a raise, he forgot all the bad things he said about the boss.

    a. said
    b. is saying
    c. may say
    d. had said

36. Ellen doesn't like me I wonder why.
   a. me I
   b. me, I
   c. me. I
   d. me but I

37. Can you get the book that's on my desk with a red binding?
   a. that's on my desk with a red binding
   b. with a red binding that's on my desk
   c. that is on my desk with a red binding
   d. that's got a red binding on my desk

38. The number of calories that you burn increases when working.
   a. when working
   b. while working
   c. when you are working
   d. when they are working

39. My wife bought me a new tie, which was very nice of her.
   a. which was very nice of her
   b. which was very nice
   c. which was lovely
   d. which was nice in its way

40. The cat ate its food, and went to sleep.
   a. food, and went
   b. food and went
   c. food, and, went
   d. food and, went

STOP

IF YOU FINISH BEFORE TIME IS UP,
CHECK YOUR WORK ON THIS PART ONLY.
DO NOT GO BACK TO THE FIRST PART.

ENGLISH - WRITTEN ENGLISH EXPRESSION

Instructions: Blacken the entire circle that contains the correct answer for the question. Only one circle may be blackened for each question. If you change an answer, be sure the erasure is complete.

Name:____________________________________ Date: ____________

1. a ○ b ○ c ○ d ○
2. a ○ b ○ c ○ d ○
3. a ○ b ○ c ○ d ○
4. a ○ b ○ c ○ d ○
5. a ○ b ○ c ○ d ○
6. a ○ b ○ c ○ d ○
7. a ○ b ○ c ○ d ○
8. a ○ b ○ c ○ d ○
9. a ○ b ○ c ○ d ○
10. a ○ b ○ c ○ d ○
11. a ○ b ○ c ○ d ○
12. a ○ b ○ c ○ d ○
13. a ○ b ○ c ○ d ○
14. a ○ b ○ c ○ d ○
15. a ○ b ○ c ○ d ○
16. a ○ b ○ c ○ d ○
17. a ○ b ○ c ○ d ○
18. a ○ b ○ c ○ d ○
19. a ○ b ○ c ○ d ○
20. a ○ b ○ c ○ d ○
21. a ○ b ○ c ○ d ○
22. a ○ b ○ c ○ d ○
23. a ○ b ○ c ○ d ○
24. a ○ b ○ c ○ d ○
25. a ○ b ○ c ○ d ○
26. a ○ b ○ c ○ d ○
27. a ○ b ○ c ○ d ○
28. a ○ b ○ c ○ d ○
29. a ○ b ○ c ○ d ○
30. a ○ b ○ c ○ d ○
31. a ○ b ○ c ○ d ○
32. a ○ b ○ c ○ d ○
33. a ○ b ○ c ○ d ○
34. a ○ b ○ c ○ d ○
35. a ○ b ○ c ○ d ○
36. a ○ b ○ c ○ d ○
37. a ○ b ○ c ○ d ○
38. a ○ b ○ c ○ d ○
39. a ○ b ○ c ○ d ○
40. a ○ b ○ c ○ d ○

STOP

Answer Key For Simulated Business School Test

Scoring Guide: Find the percentage of each section by dividing the number of correct answers by the total number of questions. Check with the student's individual training program to determine their acceptable percentage scores.

English Part 1

1.	A	11.	C
2.	B	12.	A
3.	B	13.	B
4.	C	14.	A
5.	D	15.	C
6.	C	16.	C
7.	A	17.	A
8.	C	18.	C
9.	C	19.	B
10.	A	20.	C

English Part II

21.	D	31.	C
22.	C	32.	B
23.	D	33.	B
24	C	34.	C
25.	C	35.	D
26.	A	36.	C
27.	B	37.	B
28.	C	38.	C
29.	D	39.	A
30.	B	40.	B

READING TEST

Directions: Each passage in this test is followed by questions based on its content. After reading a passage, choose the best answer to each question. Answer all the questions following a passage on the basis of what is stated or implied in that particular passage.

READING TEST
TIME - 25 MINUTES
35 QUESTIONS

You do not break boards or bones. There are no grunts or screams. Aikido is a gentle martial art growing in popularity.

Aikido is a Japanese art of self-defense. Aikidoists do not hurt their attackers. They unbalance their attackers and make them fall to the ground. Aikidoists themselves practice falling to escape attack.

Aikido is not only a physical art. It is also an art of the mind. The founder of Aikido said, "The only opponent is within." The attacker is not your enemy. He is only confused about his life. Understand yourself and your attacker. Try to love him.

People study Aikido at a dojo, or school. Teachers are called sensei. Students wear loose, white clothes. Beginners wear white belts. Experts wear black belts. Aikidoists do not compete against one another. Their own improvement brings them closer to a black belt.

Aikidoists use slow, careful movements. They breathe fully with each movement. Arms are often stretched out like swords. Strong arms are not necessary, however. Balance is more important then strength. For this reason, women do as well as men at Aikido.

If you study Aikido, you will play defender some of the time. You will play attacker some of the time. You will be thrown on the mats all of the time. Either way, you'll flip for Aikido.

1. The main purpose of the passage is to describe
   a. martial arts
   b. self-defense
   c. Aikido
   d. Japanese culture

2. According to the passage, Aikido is an art of the mind because Aikidoists
   a. read books about self-defense
   b. try to frighten their attackers
   c. use slow, careful movements
   d. try to understand themselves and their attackers

3. According to the passage, Aikidoists move from a white belt to a black belt by
    - a. competing against each other
    - b. improving themselves
    - c. escaping attack
    - d. developing strong arms

4. The passage states that all of the following are part of Aikido EXCEPT
    - a. using slow, careful movement
    - b. breaking boards and bones
    - c. breathing fully with each movement
    - d. stretching arms out like swords

5. Which of the following would be the BEST title for this passage?
    - a. Defend and Attack
    - b. The Gentle Martial Art
    - c. Aikido - A Physical Art
    - d. The Opponent Within

What has no taste, color, or calories and is essential for our diets? Water. We shouldn't take it for granted.

Out bodies are 65 percent water. Our blood is 83 percent water. Maybe we could go 80 days without food. But we could live only 10 days without water.

Water regulates body temperature. It keeps us from getting too hot or too cold. Water also carries off waste from out bodies.

On the average, we need two or three quarts of water each day. Work and hot weather may increase that need. A worker in a desert would need about a gallon and a half of water. People do not get all of their water by drinking. Foods contain water. Apples, for example, are 85 percent water.

When people see a clear glass of water, they think it is pure. It is not pure. And, in most cases, it's good that it's not pure. Dissolved minerals in water are important. Water contains calcium, iron, and other minerals. Calcium builds up teeth and bones. Iron is an important part of our blood.

Fluoride is another mineral that is often found in water. Fluoride fights tooth decay. In many places, fluoride is added to drinking water. However, the amount of fluoride that is added has to be carefully watched. Too much fluoride can be harmful.

6. According to the passage, the percent of water in our blood is
    - a. 65%
    - b. 80%
    - c. 83%
    - d. 85%

7. According to the passage, water is needed for all of the following EXCEPT
    - a. regulating body temperature
    - b. supplying vitamins
    - c. supplying dissolved minerals
    - d. carrying off waste

8. According to the passage, fluoride is added to water to
    a. help fight tooth decay
    b. build up bones
    c. build up blood
    d. regulate body temperature

9. Which of the following best states the author's main point?
    a. Too much fluoride can be harmful.
    b. People do not get all of their water by drinking.
    c. Water contains calcium, iron, and other minerals.
    d. Water is essential for health

10. The main purpose of this passage is to describe
    a. water percentages
    b. water
    c. the human body
    d. minerals

Alzheimer's disease is a major national health problem. Nearly 2 million Americans over the age of 65 have Alzheimer's disease. It is a leading cause of death among the elderly. But Alzheimer's disease is not confined to the aged. There may be a million or more people under the age of 65 suffering from the disease.

At one time, victims of Alzheimer's disease were said to be "getting senile." The disease was thought to be a natural part of growing old. It is now known that Alzheimer's disease strikes young and old alike. It is an organic disease that destroys brain cells.

Alzheimer's disease affects the patient's memory, speech, and movement. In the beginning stages of the disease, the patient may seem slightly confused. He may have trouble speaking. Then the patient's memory begins to fail him. He may forget dates, telephone numbers, names, and places.

As the disease progresses, the patient may not recognize family and friends. These symptoms often cause terrible anxiety in the patient. He may feel lost and frightened. Sometimes the patient reacts with violent and hostile behavior.

In the last stages of the disease, the patient may not be able to take care of himself. He may have lost the ability to speak and walk.

Scientists don't know exactly what causes Alzheimer's disease. It may be caused by a virus. It may be caused by a toxic substance in the environment. At present, there is not cure for the disease. But there are ways to slow its progress. Exercise and physical therapy can help the victims of this disease.

11. The main idea of the passage is that Alzheimer's disease
    a. is a terrible part of the aging process
    b. is an organic disease that affects young and old
    c. can be cured by physical therapy
    d. cause forgetfulness

12. All of the following are symptoms of Alzheimer's disease EXCEPT
    a. forgetfulness
    b. difficulty in speaking
    c. loss of sight
    d. loss of the ability to walk

13. According to the passage, which of the following may be a cause of Alzheimer's disease?
    a. poisons produced by the brain
    b. getting old
    c. a virus
    d. lack of exercise

14. According to the passage, the progress of Alzheimer's disease can be slowed by
    a. surgery
    b. a change in environment
    c. medicines
    d. physical therapy and exercise

15. The best title for this passage would be
    a. Alzheimer's - A Part of Growing Old
    b. A Cure for Alzheimer's Disease
    c. Alzheimer's - Is It a Health Problem?
    d. The Affects of Alzheimer's Disease

A healthy houseplant can grow to a large size. It can outgrow the pot that you have it in. Repotting a houseplant isn't hard. But it can affect the plant's health, so it should be done carefully.

The first thing you need when you repot a plant is a new pot. It's important to choose the right size pot for your plant. Most plants don't do well if they are moved to a pot that's too large. Choose a pot that's just one size larger than the old pot.

The kind of pot that you choose can also affect your plant's health. A red clay pot with a hole in its bottom works best. The red clay allows the soil to "breathe" easily. The hole provides drainage. It helps to protect the plant from being over watered. If you use a pot with no drainage, be sure to put about an inch of coarse gravel in the bottom of the pot. This will provide a place for excess water.

After you get the right pot, you need to get the right soil for the plant. Don't use any old dirt. Use potting soil. Potting soil contains nutrients that your plant needs. You can buy pre-mixed potting soil, or you can make your own. Here is a good mixture for most house plants:

1/2 part garden soil
1/4 part peat moss or leaf mulch
1/4 part clean sand
1 teaspoon of long-acting fertilizer

Be careful when you repot the plant. Remove the plant from its old pot carefully. The roots of the plant should be disturbed as little as possible. Hold the plant by the stem. Then turn the plant upside down to life off the old pot. Place the plant on a layer of fresh soil in the pot. Then fill in the pot with more potting soil. (Pack the soil in lightly.) Water the plant, and the job is done.

16. The best title for this passage would be
    a. Watering Houseplants
    b. Planting a Garden
    c. Repotting Houseplants
    d. Making Potting Soil

17. According to the passage, a pot with a hole in the bottom
    a. allows the soil to "breathe" easily
    b. is made of clay
    c. provides a place for excess soil
    d. provides drainage

18. All of the following are ingredients for potting soil EXCEPT
    a. peat moss
    b. clay
    c. sand
    d. fertilizer

19. The passage states that after you remove a plant from its old pot, you should
    a. place the plant on a layer of fresh soil in the new pot
    b. empty the soil from the old pot into the new pot
    c. water the plant
    d. pack the soil in the new pot

The latest trend in health care is happening outside hospitals. Many patients are no longer staying in the hospital after they have minor surgery. Instead, they are going either directly home or to a special "outpatient" facility.

One doctor feels that outpatient surgery may be healthier for the patient. Dr. Marjorie Evans is Director of Outpatient Care at North Town Medical Center. "Patients are relieved when they can leave the hospital right after surgery," Dr. Evans said. "They're more comfortable at home or at an outpatient facility. They may get better faster when they're relaxed." Dr. Evans added that outpatient surgery also takes the "ouch" out of hospital costs.

Dr. Evans doesn't think of outpatient surgery as a new wave in medicine. "The medical profession has been working for years to make outpatient care possible. Pain-killing drugs have been improved. They don't have the side-effects they once had. People don't need to stay in the hospital to take the drugs."

Dr. Stuart Howard, a surgeon at North Town Medical Center, like the outpatient option. "I recommend it for some patients who have plastic or cosmetic surgery, or minor joint operations. My only suggestion is that outpatient facilities should be located near hospital emergency rooms. Outpatient care cannot be expected to replace emergency facilities."

"The hospital isn't the only place to get quality care," Dr. Evans says. "Outpatient facilities are run by experienced health-care workers. And for patients that return home after surgery, being with the family is often the best medicine."

20. From Dr. Evans's comments in the passage, you can infer that patients do not like to stay in hospitals because
    a. patients must take more pain-killing drugs in hospitals than in outpatient facilities
    b. meals are not as good in hospitals as in outpatient facilities
    c. patients cannot relax easily in hospitals
    d. hospitals do not provide quality care

21. From information in the passage, you can infer that people once needed to stay in hospitals when they took pain-killing drugs because the drugs
    a. had to be given by doctors or nurses
    b. had side effects that required hospital care
    c. were not effective outside the hospital
    d. could not kill pain

22. The passage implies that Dr. Howard thinks outpatient facilities should be near hospital emergency rooms because
    a. minor joint operations always require emergency care
    b. outpatient facilities cannot handle medical emergencies
    c. outpatient facilities are run by inexperienced health-care workers
    d. emergency rooms need assistance from health-care workers at outpatient facilities

23. The passage implies that, compared to care in hospitals, outpatient care is
    a. cheaper
    b. safer
    c. more professional
    d. more exciting

The word is out. The Harmonic Clowns are back. And they're better than ever.

It's been 2-1/2 years since the four harmonica-playing geniuses from Lima, Ohio, last performed in public. But fans of the group don't have much longer to wait. The Clowns are scheduled to give a nationally televised concert next month.

"We were getting kind of bored sitting around Lima," said Ellis Alexander, the leader of the group. "We decided that 2-1/2 years was a long enough retirement."

Why did the Harmonic Clowns quit in the first place? Alexander explained that it was a combination of factors. "First of all, we were all getting tired of traveling from city to city. Three of us have families, and it's rough trying to be both a father and a traveling musician."

Alexander added that the group will perform fewer concerts than they had in the past. "This way," he said, "we can be home more often. But not too often."

Bobby Warner, at 58 the oldest member of the group, pointed out that the group improved since it last performed publicly. "We're not only 2-1/2 years older, we're 2-1/2 years better," he said. The group has added some new tunes to its list. "We want to go after the younger crowd," Warner explained.

At a recent rehearsal, the Harmonic Clowns proved that they hadn't lost anything. Their first hit, "Time for Love," sounded just as bubbly as it did 20 years ago. Alexander and Warner performed a duet of "The Beer Barrel Polka" that sounded incredible. As the rhythm section, "Hands" Martin and Dimmy Clark were as sharp as ever.

24. It can be inferred from the passage that the members of the Harmonic Clowns have been playing together for
    a. 58 years
    b. 20 years
    c. 2-1/2 years
    d. 5 years

25. It can be inferred from the passage that before the Harmonic Clowns went into retirement, they
    a. traveled around the country often
    b. had their own TV show
    c. were losing popularity
    d. fought with one another often

26. You can infer from the passage that the author last heard the Harmonic Clowns play
    a. at Bobby Warner's home in Lima, Ohio
    b. on TV
    c. at a rehearsal
    d. at a concert

27. The BEST title for this passage is
    a. Harmonic Clowns' Concert Is a Big Hit
    b. "Time for Love" Puts Harmonic Clowns on Record Charts
    c. Harmonic Clowns Return to Lima
    d. Harmonic Clowns Come Out of Retirement

Jack used to curse the front yard as if it were a living thing. He was the man who lived with my grandmother for thirty years. He was not my grandfather, but an Italian who came down the road one day selling lots in Florida.

He was selling a vision of eternal oranges and sunshine door to door in a land where people ate apples and it rained a lot.

Jack stopped at my grandmother's house to sell her a lot just a stone's throw from downtown Miami, and he was delivering her whiskey a week later. He stayed for thirty years and Florida went on without him.

Jack hated the front yard because he thought it was against him. There had been a beautiful lawn there when Jack came along, but he let it wander off into nothing. He refused to water it or take care of it in any way.

Now the ground was so hard that it gave his car flat tires in the summer. The yard was always finding a nail to put in one of his tires or the car was always sinking out of sight in the winter when the rains came on.

The lawn had belonged to my grandfather who lived out the end of his life in an insane asylum. It had been his pride and joy and was said to be the place where his powers came from.

28. The narrator implies that the real reason Jack had problems with the lawn was that
    a. the lawn was against him
    b. the narrator's grandfather told the lawn what to do
    c. the lawn was a living thing
    d. Jack did not take care of the lawn

29. It can be inferred from the passage that when the narrator's grandfather owned the lawn, the lawn had been
    a. muddy
    b. hard
    c. beautiful
    d. full of nails

30. Which of the following can be inferred from the passage about Jack and the narrator's grandmother?
    a. They both hated the front lawn
    b. They lived in Florida
    c. They came from Italy.
    d. They lived in the narrator's grandmother's house.

31. Which of the following would be the BEST title for the passage?
    a. The Beautiful Lawn
    b. Jack and the Front Yard
    c. Jack the Salesman
    d. My Grandmother and Grandfather

Next day around lunchtime, Toni and Brenda picked Gary up at the shoe shop and took him out for a hamburger. Sitting on each side of him at the counter, talking into his left ear and his right ear, they got right to the topic. What it came down to was that he had been borrowing too much money.

Yes, said Toni gently, he'd been hitting Vern for a five-dollar bill here, ten there, once in a while twenty. He hadn't been going to work a full number of hours either. "Vern and Ida said this to you?" Gary asked.

"Gary," said Toni, "I don't think you realize Daddy's financial situation. He's got too much pride to tell you."

"He'd be furious if he knew we were talking to you about this," Brenda said, "but Dad isn't making a whole lot right now. He created a job so the parole board would help you get out."

"If you need ten dollars," said Toni, "Daddy will be there. But not just to buy a six-pack and then come home and sit around and drink beer."

32. Which of the following statements about Gary is supported by the passage?
    a. Gary is Vern's son
    b. Gary hates Vern
    c. Gary is irresponsible
    d. Gary does not like Toni and Brenda

33. Based on the information in the passage, you can infer that Vern has helped Gary to
    a. get rich
    b. pay his bills
    c. meet a girl
    d. get out of jail

34. From the information in the passage, you can infer that Toni and Brenda feel that Gary is
    a. taking advantage of Vern
    b. working too hard
    c. drinking too much
    d. stealing from Vern

35. Which of the following statements about Gary can be inferred from the passage?
    a. Gary is working at the hamburger stand
    b. Gary is working for Vern
    c. Gary is working in a liquor store
    d. Gary is not working anywhere

STOP

**IF YOU FINISH BEFORE TIME IS UP, CHECK YOUR WORK ON THIS PART ONLY.
DO NOT GO ON UNTIL YOU ARE TOLD TO DO SO**

READING

Instructions: Blacken the entire circle that contains the correct answer for the question. Only one circle may be blackened for each question. If you change an answer, be sure the erasure is complete.

Name:____ Date: _______________

1. a ○ b ○ c ○ d ○
2. a ○ b ○ c ○ d ○
3. a ○ b ○ c ○ d ○
4. a ○ b ○ c ○ d ○
5. a ○ b ○ c ○ d ○
6. a ○ b ○ c ○ d ○
7. a ○ b ○ c ○ d ○
8. a ○ b ○ c ○ d ○
9. a ○ b ○ c ○ d ○
10. a ○ b ○ c ○ d ○
11. a ○ b ○ c ○ d ○
12. a ○ b ○ c ○ d ○
13. a ○ b ○ c ○ d ○
14. a ○ b ○ c ○ d ○
15. a ○ b ○ c ○ d ○
16. a ○ b ○ c ○ d ○
17. a ○ b ○ c ○ d ○
18. a ○ b ○ c ○ d ○
19. a ○ b ○ c ○ d ○
20. a ○ b ○ c ○ d ○
21. a ○ b ○ c ○ d ○
22. a ○ b ○ c ○ d ○
23. a ○ b ○ c ○ d ○
24. a ○ b ○ c ○ d ○
25. a ○ b ○ c ○ d ○
26. a ○ b ○ c ○ d ○
27. a ○ b ○ c ○ d ○
28. a ○ b ○ c ○ d ○
29. a ○ b ○ c ○ d ○
30. a ○ b ○ c ○ d ○
31. a ○ b ○ c ○ d ○
32. a ○ b ○ c ○ d ○
33. a ○ b ○ c ○ d ○
34. a ○ b ○ c ○ d ○
35. a ○ b ○ c ○ d ○

Answer Key for Simulated Test For Reading Exercises

1. C
2. D
3. B
4. B
5. B
6. C
7. B
8. A
9. D
10. B
11. B
12. C
13. C
14. D
15. D
16. C
17. D
18. B
19. A
20. C
21. B
22. B
23. A
24. B
25. A
26. C
27. D
28. D
29. C
30. D
31. B
32. C
33. D
34. A
35. B

MATH COMPUTATION TEST

Directions: Each problem in this test is followed by four suggested answers. When you have decided which of the suggest answers is correct, fill in the corresponding circle on the answer sheet.

Sample Question	Sample Answer
200 + 62 + 187	1. a ○ b ● c ○ d ○
a. 2147	
b. 2249	
c. 2789	
d. 2349	

Answer b is marked since the sum is 2249. You will have 20 minutes to work on the thirty-five questions in the test.

DO NOT TURN PAGE UNTIL YOU ARE TOLD TO DO SO

MATH COMPUTATION

TIME - 20 MINUTES

35 QUESTIONS

PROBLEM	ANSWER
1. 37 + 480 + 3086	a. 3593 b. 6866 c. 3603 d. 5213
2. $9 \times \frac{1}{6}$	a. $\frac{9}{6}$ b. 54 c. $\frac{1}{54}$ d. $\frac{3}{2}$
3. 960 ÷ 16	a. 6 b. .006 c. 60 d. 600
4. $\begin{array}{r} 4706 \\ -\ 1899 \\ \hline \end{array}$	a. 2917 b. 2807 c. 6605 d. 3193
5. $\begin{array}{r} 538 \\ 29 \\ +\ 9482 \\ \hline \end{array}$	a. 1049 b. 10049 c. 9939 d. 9949
6. 2 x (6 + 5)	a. 17 b. 13 c. 22 d. 16
7. $\begin{array}{r} \frac{3}{15} \\ +\ \frac{6}{15} \\ \hline \end{array}$	a. $\frac{3}{5}$ b. $\frac{9}{15}$ c. $\frac{3}{15}$ d. $\frac{1}{5}$
8. $\frac{2}{3} \times \frac{6}{11}$	a. $\frac{4}{11}$ b. $\frac{8}{11}$ c. $\frac{12}{33}$ d. $\frac{22}{18}$
9. 3000 x 50	a. 15,000 b. 150,000 c. 3050 d. 150

PROBLEM	ANSWER
10. $84 \div 7$	a. $\frac{84}{7}$ b. 12 c. $\frac{7}{84}$ d. $\frac{1}{12}$
11. $\frac{2}{5} + \frac{1}{8}$	a. $\frac{3}{13}$ b. $\frac{3}{40}$ c. $\frac{21}{40}$ d. $\frac{3}{5}$
12. $0.19\overline{)\,.3078}$	a. .1620 b. 1.62 c. 16.2 d. .162
13. $\begin{array}{r} 629.15 \\ \underline{-428.37} \end{array}$	a. 1057.55 b. 201.22 c. 200.78 d. 201.78
14. 34% can be written as	a. $\frac{34}{1000}$ b. 3.4 c. $\frac{34}{10}$ d. $\frac{34}{100}$
15. $\begin{array}{r} 27 \\ \underline{\times\ 0.003} \end{array}$	a. 0.081 b. 0.81 c. 8100 d. 0.030

PROBLEM	ANSWER
16. $\frac{11}{20} - \frac{6}{20}$	a. $\frac{17}{20}$ b. $\frac{3}{10}$ c. $\frac{1}{4}$ d. $\frac{5}{20}$
17. $\begin{array}{r} 8.19 \\ \underline{\times\ 4.2} \end{array}$	a. 33.388 b. 343.98 c. 333.98 d. 34.398
18. $\begin{array}{r} 27'\ 7'' \\ \underline{-11'\ 10''} \end{array}$	a. 15' 9" b. 16' 7" c. 16' 4" d. 15' 7"
19. $\begin{array}{r} 7\frac{1}{2} \\ \underline{-5\frac{2}{3}} \end{array}$	a. $2\frac{1}{6}$ b. $1\frac{5}{6}$ c. $1\frac{1}{6}$ d. $1\frac{1}{3}$
20. $\frac{18}{4} \times \frac{8}{3}$	a. $\frac{144}{12}$ b. $\frac{32}{12}$ c. 12 d. $\frac{48}{4}$
21. $\frac{3,000 \times 30}{300}$	a. 100 b. 1000 c. 30 d. 300

PROBLEM	ANSWER
22. $4\frac{3}{7}$	a. $\frac{31}{7}$ b. $\frac{14}{7}$ c. 2 d. 1
23. 6 ounces is what fractional part of a pound?	a. $\frac{3}{5}$ b. $\frac{2}{5}$ c. $\frac{1}{2}$ d. $\frac{3}{8}$
24. $69\overline{)3263}$	a. 48 b. 47 + 20 c. 46 + 20 d. 47
25. What is 40% of 60?	a. 1½ b. 35 c. 150 d. 24
26. $\frac{11}{7} \div \frac{21}{14}$	a. $\frac{231}{98}$ b. $\frac{33}{14}$ c. $\frac{98}{231}$ d. $\frac{22}{21}$
27. $7\frac{2}{4} \times 1\frac{3}{5}$	a. 12 b. $\frac{63}{10}$ c. $\frac{9}{5}$ d. 6

PROBLEM	ANSWER
28. $300 \div 0.5$	a. 60 b. 600 c. 6000 d. 0.6
29. $\begin{array}{r} 601 \\ \times\ 27 \\ \hline \end{array}$	a. 16,227 b. 1,727 c. 1,647 d. 628
30. $\begin{array}{r} 6\frac{7}{20} \\ 2\frac{4}{5} \\ +\ 3\frac{3}{4} \\ \hline \end{array}$	a. $12\frac{38}{30}$ b. $12\frac{9}{10}$ c. $11\frac{9}{10}$ d. $12\frac{1}{10}$
31. $2\frac{1}{2} \div 7\frac{3}{4}$	a. $\frac{31}{10}$ b. $\frac{155}{8}$ c. $\frac{10}{31}$ d. $\frac{30}{8}$
32. $\frac{1}{500}$	a. .02 b. .0002 c. .002 d. .020
33. 400% of 9.06	a. 3.624 b. 2.23 c. 13.06 d. 36.24

PROBLEM	ANSWER
34. $11 - \frac{4}{3}$	a. $2\frac{1}{3}$ b. $9\frac{2}{3}$ c. $3\frac{1}{3}$ d. $12\frac{1}{3}$
35. $\dfrac{14}{\frac{2}{3}}$	a. $9\frac{1}{3}$ b. $2\frac{1}{3}$ c. $\frac{1}{12}$ d. 21

STOP

IF YOU FINISH BEFORE TIME IS UP, CHECK YOUR WORK ON THIS PART ONLY.

MATHEMATICS - COMPUTATION

Instructions: Blacken the entire circle that contains the correct answer for the question. Only one circle may be blackened for each question. If you change an answer, be sure the erasure is complete.

Name:______________________________ Date:____________

1. a ○ b ○ c ○ d ○
2. a ○ b ○ c ○ d ○
3. a ○ b ○ c ○ d ○
4. a ○ b ○ c ○ d ○
5. a ○ b ○ c ○ d ○
6. a ○ b ○ c ○ d ○
7. a ○ b ○ c ○ d ○
8. a ○ b ○ c ○ d ○
9. a ○ b ○ c ○ d ○
10. a ○ b ○ c ○ d ○
11. a ○ b ○ c ○ d ○
12. a ○ b ○ c ○ d ○
13. a ○ b ○ c ○ d ○
14. a ○ b ○ c ○ d ○
15. a ○ b ○ c ○ d ○
16. a ○ b ○ c ○ d ○
17. a ○ b ○ c ○ d ○
18. a ○ b ○ c ○ d ○
19. a ○ b ○ c ○ d ○
20. a ○ b ○ c ○ d ○
21. a ○ b ○ c ○ d ○
22. a ○ b ○ c ○ d ○
23. a ○ b ○ c ○ d ○
24. a ○ b ○ c ○ d ○
25. a ○ b ○ c ○ d ○
26. a ○ b ○ c ○ d ○
27. a ○ b ○ c ○ d ○
28. a ○ b ○ c ○ d ○
29. a ○ b ○ c ○ d ○
30. a ○ b ○ c ○ d ○
31. a ○ b ○ c ○ d ○
32. a ○ b ○ c ○ d ○
33. a ○ b ○ c ○ d ○
34. a ○ b ○ c ○ d ○
35. a ○ b ○ c ○ d ○

Answer Key - Math Computation

1. C
2. C
3. C
4. B
5. B
6. C
7. A
8. A
9. B
10. B
11. C
12. B
13. C
14. D
15. A
16. C
17. D
18. A
19. B
20. C
21. D
22. A
23. D
24. B
25. D
26. D
27. A
28. B
29. A
30. B
31. C
32. C
33. D
34. B
35. D

APPLIED MATH

Directions: Each problem in this test is followed by four suggested answers. When you have decided which of the suggested answers is correct, fill in the corresponding circle on the answer sheet.

Sample Question	Sample Answer
Allison bought office supplies for $32.75. How much change should she have received from a $50 dollar bill? a. $17.25 b. 18.25 c. $16.75 d. $18.75	1. a ● b ○ c ○ d ○

Answer a is marked since the amount of change received is $17.25.

You will have twenty minutes to work on the 25 questions in this test.

DO NOT TURN PAGE UNTIL YOU ARE TOLD TO DO SO

APPLIED MATH

TIME - 20 MINUTES

25 QUESTIONS

The Bakers Family's Monthly Budget

Taxes	Food	Rent	Electric	Telephone	Fuel	Miscellaneous Items
$120	$298	$319	$45	$40	$80	$198

1. How much does the Baker Family budget for food each month?
   (A) $40 (B) $45 (C) $198 (D) $298 (E) $158

2. How much does the Baker family budget for food, rent, and miscellaneous items each month?
   (A) $615 (B) $695 (C) $795 (D) $815 (E) $905

3. What is the total amount of the Baker family's monthly budget?
   (A) $770 (B) $1,000 (C) $1,070 (D) $1,100 (E) $1,220

4. What percentage of the Baker family's monthly budget is used to pay for miscellaneous items?
   (A) 18% (B) 20% (C) 21% (D) 22% (E) 15%

5. What percentage of the family's monthly budget is used to pay rent?
   (A) 22% (B) 29% (C) 32% (D) 34% (E) 26%

6. The Baker family's fuel oil bill was only $63.48 one month. How much money did they have left in their fuel budget?
   (A) $6.52 (B) $16.52 (C) $17.62 (D) $27.52 (E) $28.42

7. What fraction of the Baker family's monthly budget is used to pay for fuel and taxes?
   (A) 1/11 (B) 2/11 (C) 1/5 (D) 4/55 (E) 3/5

8. One month, the Baker family's food bill was $315. They took the extra money they needed to pay for food out of the budget for miscellaneous items. How much did they have left in the miscellaneous budget that month?
   (A) $17 (B) $81 (C) $117 (D) $181 (E) $97

9. Horace bought 4 books for $3.95 each, tax included. How much change should he have received from $20?
   (A) $4.20 (B) $4.40 (C) $5.20 (D) $7.40 (E) $3.20

10. 10,855 people paid $6 each to attend a basketball game. How much money was collected at the game?
    (A) $60,800 (B) $64,800 (C) $64,830 (D) $65,130 (E) $66,220

11. Of the 380 employees of the Ace Manufacturing Company, 15% are 55 years or older. How many of the employees are younger than 55?
(A) 53 (B) 57 (C) 323 (D) 327 (E) 123

12. A recipe calls for 1 lb. 12 oz. of tomatoes. The recipe serves 4 people. What amount of tomatoes would be needed to serve 8 people?
(A) 1 lb. 24 oz. (B) 2 lbs. 8 oz. (C) 2 lbs. 12 oz. (D) 3 lbs. 8 oz. (E) 3 lbs. 4 oz.

13. Freida works part-time in a candy store. On Monday, she worked 3-1/4 hours. On Tuesday she worked 2-1/2 hours. On Thursday, she worked 4 hours. What is the average number of hours per day that Freida worked in the three days?
(A) 2-5/12 (B) 3-2/9 (C) 3-1/4 (D) 9-1/3 (E) 3-2/5

14. At the local supermarket, bagels sell for $1.18 a dozen. How much would 2.5 dozen bagels cost?
(A) $2.71 (B) $2.75 (C) $2.85 (D) $2.95 (E) $2.65

15. Jason's gross pay last year was $9,590. He has to pay 12% of this amount in federal income taxes. How much does he have to pay in federal income taxes?
(A) $1,040.80 (B) $1,139.80 (C) $1,149.80 (D) $1,150.80 (E) $1,115.80

16. From 1970 to 1980, the population of Fairbanks, Alaska increased by 7,874 people. The population in 1980 was 22,645. What was the population in 1970?
(A) 13,771 (B) 14,731 (C) 14,771 (D) 15,771 (E) 15,571

17. Tommy Davis received three out of every five votes in the last election for mayor of Bradford. If, 7,215 people voted in the election, how many votes did Tommy Davis get?
(A) 481 (B) 2,405 (C) 3,229 (D) 4,329 (E) 1,215

18. From a board that is 4 feet 8 inches long, Marty saws a piece that is 2 feet 11 inches long. How long is the piece that he has left?
(A) 1 ft. 3 in. (B) 1 ft. 9 in. (C) 2 ft. 3 in. (D) 2 ft. 9 in. (E) 3 ft. 1 in.

19. 16% of the people who work for the Hester Manufacturing Company are part-time employees. 40 part-time employees work for the company. What is the total number of people who work for the company?
(A) 115 (B) 211 (C) 242 (D) 250 (E) 175

20 Maria paid $45.90, $56.73 and $98.48 for groceries last month. How much did she spend on groceries last month?
(A) $180.11 (B) $189.01 (C) $190.11 (D) $201.11 (E) $192.01

21. Roy used to make $216 a week. He just received a $25 a week raise. What will be his new yearly salary. (1 year = 52 weeks)
(A) $10,532 (B) $12,532 (C) $12,012 (D) $12,112 $11,432

2. Andrew's car used up exactly 24 gallons of gasoline on a recent 2 hr. trip. His car averaged 29.8 miles per gallon of gasoline. How many miles did he drive on the trip?
(A) 715.2 (B) 605.2 (C) 615.2 (D) 705.2 (E) 650.2

23. 3/5 of Jim Mason's money goes to pay his mortgage. 5/6 of the mortgage money goes to pay his interest on the mortgage. What fraction of Jim Mason's money goes to pay interest on this mortgage?
(A) 1/6 (B) 7/30 (C) 1/3 (D) 1/2 (E) 2/5

24. Jim has 430 coins in his coin collection. 40% of his coins are nickels. 75% of his nickels are buffalo nickels. How many buffalo nickels does Jim have in his collection?
(A) 64 (B) 120 (C) 121 (D) 129 (E) 76

25. On a recent trip to the grocery store, Judy bought a 1 lb. 9 oz. package of ground beef and a 1-1/2 lb. package of steak. How much meat did she buy?
(A) 2 lbs. 8 oz. (B) 2 lbs. 9 oz. (C) 3 lbs. (D) 3 lbs. 1 oz. (E) 2 lbs. 6 oz.

DO NOT TURN PAGE UNTIL YOU ARE TOLD TO DO SO

MATHEMATICS - APPLIED ARITHMETIC

Instructions: Blacken the entire circle that contains the correct answer for the question. Only one circle may be blackened for each question. If you change an answer, be sure the erasure is complete.

Name:______________________________________ Date: _______________

1. a ○ b ○ c ○ d ○
2. a ○ b ○ c ○ d ○
3. a ○ b ○ c ○ d ○
4. a ○ b ○ c ○ d ○
5. a ○ b ○ c ○ d ○
6. a ○ b ○ c ○ d ○
7. a ○ b ○ c ○ d ○
8. a ○ b ○ c ○ d ○
9. a ○ b ○ c ○ d ○
10. a ○ b ○ c ○ d ○
11. a ○ b ○ c ○ d ○
12. a ○ b ○ c ○ d ○
13. a ○ b ○ c ○ d ○
14. a ○ b ○ c ○ d ○
15. a ○ b ○ c ○ d ○
16. a ○ b ○ c ○ d ○
17. a ○ b ○ c ○ d ○
18. a ○ b ○ c ○ d ○
19. a ○ b ○ c ○ d ○
20. a ○ b ○ c ○ d ○
21. a ○ b ○ c ○ d ○
22. a ○ b ○ c ○ d ○
23. a ○ b ○ c ○ d ○
24. a ○ b ○ c ○ d ○
25. a ○ b ○ c ○ d ○

Applied Math Solution Key

1.	D
2.	D
3.	D
4.	A
5.	B
6.	B
7.	B
8.	D
9.	A
10.	D
11.	C
12.	D
13.	C
14.	D
15.	D
16.	C
17.	D
18.	B
19.	D
20.	D
21.	B
22.	A
23.	D
24.	D
25.	D

Basic Skill & Placement

Math Exercises

for

Business School

Computation & Word Problems

The math computation and word problems that follow are not intended as initial instruction in the areas covered. These exercises are intended as a follow-up to a general review of basic math:

Whole numbers
Time & Measurement
Proportion
Numbers Series
Average
Decimals
Fractions
Percents

Selective Bibliography for Math Review

Number Power 1 Illinois: Contemporary Books, Inc.	Addition, subtraction, multiplication and division of whole numbers.
Number Power 2	Fractions, decimals and Percents.
Number Power 6	Word Problems: Fractions, decimals and percents.
Number Power Review	Whole numbers to algebra

MATH COMPUTATION

DRILL

PROBLEM	ANSWER	PROBLEM	ANSWER
1. $700 \div 14$	a. 50 b. 0.02 c. 5 d. 30	7. 2610 396 + 48	a. 2,944 b. 3,164 c. 3,054 d. 2,954
2. $7 \times \frac{3}{24}$	a. $\frac{7}{8}$ b. $\frac{21}{24}$ c. $7\frac{3}{24}$ d. $\frac{57}{8}$	8. $\frac{9}{16}$ $+\frac{3}{16}$	a. $\frac{6}{16}$ b. $\frac{12}{16}$ c. $\frac{3}{8}$ d. $\frac{3}{4}$
3. 92 + 608 + 1007	a. 177 b. 10817 c. 1607 d. 1707	9. $95 \div 5$	a. 8.053 b. 475 c. 18 d. 19
4. 7010 -3426	a. 3,596 b.10,436 c. 3,584 d. 4,683	10. 2000 x 20	a. 40,000 b. 4,000 c. 3,020 d. 200
5. 3 x (2 + 7)	a. 13 b. 27 c. 23 d. 17	11. $\frac{3}{4} + \frac{2}{5}$	a. $\frac{5}{9}$ b. $\frac{23}{20}$ c. 1 d. $\frac{6}{5}$
6. $\frac{6}{7} \times \frac{9}{12}$	a. $\frac{15}{19}$ b. $\frac{9}{14}$ c. $\frac{9}{2}$ d. $\frac{54}{84}$		

BEST COPY AVAILABLE

PROBLEM	ANSWER
12. $0.24\overline{)\,3.552}$	a. 1480 b. 1.48 c. .148 d. 14.8
13. $\frac{14}{16} - \frac{6}{16}$	a. $\frac{20}{16}$ b. $\frac{3}{8}$ c. $\frac{1}{2}$ d. $\frac{8}{16}$
14. $\begin{array}{r} 517.07 \\ \underline{-396.28} \end{array}$	a. 913.35 b. 281.21 c. 120.79 d. 121.89
15. 54% can be written as?	a. $\frac{54}{10}$ b. 54 c. $\frac{54}{100}$ d. 5.4
16. $\begin{array}{r} 34 \\ \times\ \underline{0.002} \end{array}$	a. 68,000 b. 0.68 c. 68 d. 0.068
17. $\begin{array}{r} 33\text{ ft. } 9\text{ in.} \\ \underline{-17\text{ ft. } 11\text{ in.}} \end{array}$	a. 16 ft 2 in b. 15 ft 10 in c. 16 ft d. 16 ft 10 in
18. $\begin{array}{r} 2.31 \\ \times\ \underline{5.2} \end{array}$	a. 12.012 b. 120.12 c. 28.3 d. 0.12
19. $\frac{10}{3} \times \frac{9}{2}$	a. $\frac{47}{6}$ b. $\frac{90}{6}$ c. 15 d. 30
20. $\begin{array}{r} 8\frac{1}{3} \\ \underline{-\ 5\frac{2}{5}} \end{array}$	a. $3\frac{1}{5}$ b. $3\frac{14}{15}$ c. $13\frac{11}{15}$ d. $2\frac{14}{15}$
21. $7\frac{2}{5} =$	a. $\frac{14}{15}$ b. $\frac{37}{5}$ c. $\frac{24}{5}$ d. 37
22. $\frac{2000 \times 10}{400}$	a. 50 b. 5 c. 15 d. 0.02

PROBLEM	ANSWER
23. $37\overline{)1897}$	a. 0.02 b. 60 c. 51 R10 d. 51
24. 7 inches is what fractional part of a foot?	a. $\frac{7}{16}$ b. $\frac{7}{12}$ c. $\frac{7}{1}$ d. 7
25. $\frac{7}{15} \div \frac{2}{3}$	a. $\frac{14}{45}$ b. $\frac{7}{10}$ c. $\frac{17}{15}$ d. $\frac{7}{2}$
26. $4\frac{1}{2} \times 2\frac{4}{9}$	a. $8\frac{4}{18}$ b. $\frac{81}{44}$ c. 11 d. $6\frac{5}{11}$
27. What is 30% of 50?	a. 15 b. 1500 c. 1.67 d. 166.7

PROBLEM	ANSWER
28. $\frac{1}{200}$	a. 200 b. 100 c. 0.20 d. 0.005
29. 700 ÷ 0.4	a. 1,750 b. 0.0006 c. 175 d. 280
30. $4\frac{1}{3} \div 7\frac{4}{5}$	a. $\frac{226}{5}$ b. $\frac{5}{9}$ c. $\frac{5}{3}$ d. $\frac{9}{5}$
31. $\begin{array}{r} 2\frac{3}{4} \\ 5\frac{2}{3} \\ +\ 7\frac{5}{8} \\ \hline \end{array}$	a. $14\frac{10}{16}$ b. $15\frac{7}{12}$ c. $14\frac{2}{5}$ d. $16\frac{1}{24}$
32. $24 - \frac{7}{3}$	a. $21\frac{2}{3}$ b. $24\frac{7}{3}$ c. $23\frac{4}{3}$ d. $24\frac{1}{3}$

PROBLEM	ANSWER	PROBLEM	ANSWER
33. 120% of 6.02?	a. 19.9 b. 7.224 c. 5.02 d. 6.02		
34. $\dfrac{18}{\frac{3}{5}}$	a. 30 b. $\frac{6}{5}$ c. 9 d. 25		
35. $\begin{array}{r} 204 \\ \times\ 52 \\ \hline \end{array}$	a. 1248 b. 256 c. 10,608 d. 10,208		

KEY FOR DRILL

1. A
2. A
3. D
4. C
5. B
6. B
7. C
8. D
9. D
10. A
11. B
12. D
13. C
14. C
15. C
16. D
17. B
18. A
19. C
20. D
21. B
22. A
23. C
24. B
25. B
26. C
27. A
28. D
29. A
30. B
31. D
32. A
33. B
34. A
35. C

Math Word Problems
Basic Placement for Business School

Average

Problem

- Olivia mailed five packages. The packages weighed 1 3/8 pounds, 2 5/6 pounds, 11/16 pound, 3 5/8 pounds and 2 pounds. What was the average weight of the five packages?

Solution Add the values:

$$1\frac{3}{8} + 2\frac{5}{6} + \frac{11}{16} + 3\frac{5}{8} + 2 = 10$$

Then divide this answer by the number of values:

$$10 \div 5 = 2$$

Answer 2

Problem

- Rita works part-time in a department store. On Monday, she worked 3 1/4 hours. On Tuesday, she worked 2 3/4 hours. On Wednesday, she worked 1 3/4 hours. On Thursday, she worked 4 hours. On Friday, she worked 6 3/4 hours. What was the average number of hours that she worked each day?

Solution Add the values:

$$3\frac{1}{4} + 2\frac{3}{4} + 1\frac{3}{4} + 4 + 6\frac{3}{4} = 18\frac{1}{2}$$

Then divide this answer by the number of values:

$$18\frac{1}{2} \div 5 = \frac{37}{2} \div \frac{5}{1}, \text{ so } \frac{37}{2} \times \frac{1}{5} = 3\frac{7}{10}$$

Answer $3\frac{7}{10}$

Proportion

Problem

- If 6 oranges cost $1.20, how much will 15 oranges cost?

Solution Another way to express this problem:

$$\frac{6\ \text{oranges}}{15\ \text{oranges}} = \frac{\$1.20}{X}$$

Multiply on the diagonal without the unknown value (15 x $1.20 = $18.00). Then divide this answer by the remaining value ($18 ÷ 6 = $3.00).

Answer $3.00

Problem

- If 6 oranges cost $1.20, how many oranges can be bought for $3.00?

Solution

$$\frac{6\ \text{oranges}}{X} = \frac{\$1.20}{\$3.00}$$

Again, multiply on the diagonal without the unknown value (6 x $3.00 $18.00). Then divide this answer by the remaining value ($18 ÷ $1.20 = 15).

Answer 15 oranges

Problem

- If a veterinarian hospital treated 8 animals in 2 hours, what was the hourly average of animal treated?

Solution Restate problem:

$$\frac{8\ \text{animals}}{X} = \frac{2\ \text{hours}}{1\ \text{hour}}$$

Multiply on the diagonal without the unknown value (8 x 1 = 8). Then divide this answer by the remaining value (8 ÷ 2 = 4).

Answer 4 animals an hour

-Proportion continued-

Problem

- If 6 oranges cost $1.20, how many oranges can be bought for $3.00?

Solution $\frac{\text{6 oranges}}{X} = \frac{\$1.20}{\$3.00}$

Again, multiply on the diagonal without the unknown value (6 x $3.00 $18.00). Then divide this answer by the remaining value ($18 ÷ $1.20 = 15).

Answer 15 oranges

Problem

- If a veterinarian hospital treated 8 animals in 2 hours, what was the hourly average of animal treated?

Solution Restate problem: $\frac{\text{8 animals}}{X} = \frac{\text{2 hours}}{\text{1 hour}}$

Multiply on the diagonal without the unknown value (8 x 1 = 8). Then divide this answer by the remaining value (8 ÷ 2 = 4).

Answer 4 animals an hour

Problem

- John and Alice McKay make dog houses. Their materials for one week cost $65. If they made $325 selling their houses, earning $52 profit for each house, how many houses did they sell?

Solution	Total Cost	$65
	Total Sales	$325
	Profit per House	$52
	Total Profit	$325 - $65 = $260

Set up a proportion $\frac{\$52}{\$260} = \frac{\text{1 house}}{X}$

Solve
$260 x 1 = $260
$260 ÷ $52 = 5

Answer 5 dog houses

Decimals

Problem

- Herman bought a 2.5 pound package of swiss cheese for $8.60. What was the price of swiss cheese per pound?

Solution Divide the total price by the pounds purchased.

$8.60 ÷ 2.5 =

$$\begin{array}{r} 3.44 \\ 25\overline{)\,86.00} \end{array}$$

Answer $3.44

Problem

- 2/3 pound of chicken wings costs $1.72. How much do chicken wings cost per pound?

Solution Divide the total price by the pounds purchased:
$1.72 ÷ 2/3 =

Change the fraction into a decimal by dividing the denominator into the numerator

$$\begin{array}{r} .67 \\ 3\overline{)\,2.00} \end{array}$$

Now you can divide decimal by decimal:

.67 1.72

$$\begin{array}{r} 2.56 \\ 67\overline{)\,172.00} \end{array}$$

Answer $2.56

Problem

- Henry drove his car 444.3 miles last Saturday. His car used up 25 gallons of gasoline. To the nearest hundredth, his car averaged how many miles per gallon?

Solution Divide the total miles driven by the gallons of gas used:
444.3 ÷ 25 =

$$\begin{array}{r} 17.77 \\ 25\overline{)\,444.30} \end{array}$$

Answer 17.77 miles

Percents

Problem

- What is 50% of 4?

Solution Convert 50% into a decimal by moving decimal two places to the left (.50) and multiply .50 x 4 = 2.00 or 2

Answer: 2

Problem

- Harry wants to buy a $51,500 house. He has to make a down payment of 12% of the price of the house. How much must the down payment be?

Solution Convert 12% into a decimal by moving the decimal two places to the left (.12) and multiply: $51,500 x .12 = $6,180.

Answer $6,180

Problem

- Mrs. Green marks up all of the items in her store 25% of the price she pays for the item. If she pays $4.60 for an item, how much will it sell for in her store?

Solution Convert 25% to a decimal by moving the decimal two places to the left (.25) and multiply: $4.60 x .25 = $1.15

Next add the amount of the mark up to the original cost:
$4.60 + $1.15 = $5.75

Answer $5.75

Problem

- In a recent survey, 28% of the people surveyed said they preferred Super Glow Toothpaste over any other brand. If 147 people said they preferred Super Glow, what was the total number of people who were surveyed?

Solution The problem actually tells you that 28% is equal to 147. Therefore set up a proportion:

$$\frac{28\%}{100\%} = \frac{147}{x}$$

Multiply on the diagonal without the unknown value (147 x 100% or 147 x 1 = 147). Then divide this answer by the remaining value:

$147 \div 28\%$ .28 147 $28 \,/\, \overline{14700}$ with quotient 525

Answer 525 people

Fractions

Problem

•One of the heating ovens in the hospital kitchen is 6 feet high. The kitchen ceiling is 13 feet high. What fraction of the height of the kitchen is the height of the oven?

Solution

The oven occupies 6 of the 13 feet. Thus we have 6 parts out of a whole of 13 parts.

Answer 6/13

Problem

•One-tenth of our 200 patients have colds. How many patients have colds?

Solution Multiply to find a fractional part of a whole.

$$\frac{1}{10} \times 200 \text{ so } \frac{1}{10} \times \frac{200}{1} = 20$$

Answer 20

Problem

•Mrs. Hodgson picked 60 boxes of strawberries. When she went to sell them the next morning, she found one of every 12 boxes too ripe for sale. How many boxes could she sell?

Solution Multiply to find a fractional part of a whole.

$$60 \times \frac{1}{12} \text{ so } \frac{60}{1} \times \frac{1}{12} = 5$$

Since 5 boxes were too ripe for sale, these are subtracted from the total: 60 - 5 = 55

Answer 55 boxes

Problem

- Mrs. Cheever bought 3 quarts of milk. This was exactly enough to give each of her cats 1/2 pint of milk. How many cats does Mrs. Cheever have?

Solution Divide the total number of quarts by the amount given to each cat. First convert 3 quarts into pints so that you are working with the same unit of measure. There are 2 pints per quart; therefore there are 6 pints in 3 quarts (2 x 3 = 6).

Now divide: $6 \div \frac{1}{2} = \frac{6}{1} \times \frac{2}{1} = 12$ cats

Answer 12 cats

Time & Measurement

Problem

- On her past trip to the doctor, Sylvia weighed 129 lbs. 8 oz. At the same time last year, she had weighed 147 lbs. 4 oz. How much weight did she lose in the year.

Solution Subtract ounces from ounces and pounds from pounds:

146 lbs. 20 oz.
-129 lbs. 8 oz.
17 lbs. 12 oz.

Answer 17 lbs. 12 oz.

Problem

- Joe gained 4 lbs. 9 oz. over the holidays. He weighed 189 lbs. 7 oz. How much did he weigh before the holidays?

Solution Subtract ounces from ounces and pounds from pounds:

189 lbs. 7 oz.
- 4 lbs. 9 oz.

188 lbs. 23 oz.
- 4 lbs. 9 oz.
184 lbs. 14 oz.

Since it is impossible to subtract 9 oz. from 7 oz., you must borrow from 189 lbs. and then convert the borrowed pound into 16 ounces and add this to the 7 ounces.

Answer 184 lbs. 14 oz.

Problem

- Van worked 7 hours 45 minutes on Monday, 7 hours 30 minutes on Tuesday, and 6 hours 55 minutes on Wednesday. How long did he work in the three days?

Solution

7 hrs 45 min.
7 hrs 30 min.
6 hrs 55 min.
20 hrs 130 min.

Convert 130 minutes into hours. Since there are 60 minutes to an hour, divide 130 by 60:

2 hours 10 min.
60 130

Add 2 hours and 10 minutes to 20 hours = 22 hours 10 min.

Answer 22 hours 10 minutes

Problem

- **In five days, Martin worked 38 hours 45 minutes. On the average, how long did he work each day?**

Solution To find an average, you divide the total sum (38 hours 45 minutes) by the number of values making up the sum (in this case 5 since he worked five days).

When dividing hours and minutes you must divide each measurement separately. First divide 38 hours by 5 and then divide 45 minutes by 5:

$$\begin{array}{lrl} & & 7 \text{ hours (with 3 hours left over)}\\ \text{Hours} & 5 & 38\\ & & \underline{35}\\ & & \ \ 3\end{array}$$

- Next, change the remainder into the next unit:
  3 hours = 180 minutes
- Now add 180 minutes to 45 minutes: 180 + 45 = 225 min.
- Divide 225 by 5: 225 ÷ 5 = 45 minutes
- Finally add hours and minutes: 7 hours 45 min.

Answer 7 hours 45 minutes

Number Series

Problem

- Find the next term in the series 3, 7, 11, 15 . . .

Solution Adding a value of 4 to a term produces the next one.

To determine the next term in a series is to establish the relationship among the first two terms given.

Answer 19

Problem

- Find the next term: 1/2, 1/4, 1/8, 1/16 . . .

Solution Multiplying a term by $\frac{1}{2}$ (or doubling the denominator) produces the next term:

Thus, $\frac{1}{16} \times \frac{1}{2} = \frac{1}{32}$ or $\frac{1}{16 + 16} = \frac{1}{32}$

Answer $\frac{1}{32}$

Problem

- Find the next term in the series 648, 216, 72, 24 . . .

Solution Dividing a term by 3 yields the next term.

Thus, 24 ÷ 3 = 8

Answer 3

Word Problem Quiz

Problem Eloise and her husband Rupert have a combined yearly salary of $20,160. Eloise make 4/7 of this amount. How much does Eloise make?

Answer $11,520

Problem $1,255.50 is to be divided equally amount 54 people. How much should each person receive?

Answer $23.25

Problem 1/8 of the people who ate lunch at Leo's Luncheonette yesterday had a tuna salad sandwich. 3/5 of the people who had a tuna salad sandwich had it on rye bread. If 400 people had lunch at Leo's yesterday, how many had a tuna salad sandwich on rye?

Answer 30

Problem Byron has a board that is 11 ft. 3 in. long. He needs to cut the board into three equal pieces. How long will each piece be?

Answer 3 ft. 9 in.

Problem Linda bought a 2 quart jar of oil. She used 1/2 quart of the oil to fry chicken and 1/3 quart of the oil to fry fish. How much of the oil did she have left?

Answer 1 1/6 quarts

Problem A cup of chopped spinach provides 1/5 of the protein that a 5 year-old child needs in a day. If a 5 year-old child needs 30 grams of protein in a day, how many gram of protein does a cup of chopped spinach supply?

Answer 6

Problem Gertrude has already saved $59 toward the purchase of 4 tires that cost $57 each. How much does she need to save before she can buy the tires?

Answer $169

Problem Ray's car has a 15 gallon gas tank. When he went to the gas station yesterday, he had 4.3 gallons of gasoline in his tank. If gasoline costs $1.50 a gallon, how much will it cost him to fill up his tank.

Answer $16.05

Problem If a Barker's Department Store employee works on Sunday, he receives 2 -1/2 times his normal hourly wage. If an employee's normal hourly wage is $4.50, how much will he receive for working 6 hours on Sunday?

Answer $67.50

1. The cost of a weekend telephone call from Manhattan to Houston is $.22 for the first minute and $.16 for each additional minute. How much would a 9-minute weekend call from Manhattan to Houston cost?

   (A) $1.10 (B) $1.40 (C) $1.44 (D) $1.50 (E) $1.98

2. Howie put a $1,500 down payment on a car that costs $5,620. He will pay the remainder of the cost of the car in 25 euql monthly payments. How much will each monthly payment be?

   (A) $110.48 (B) $154.80 (C) $164.80 (D) $224.80 (E) $284.80

3. Dolores cuts a pie into 8 slices. It will be divided equally amont 3 people. How many slices will each person get?

   (A) $2\frac{2}{3}$ (B) $2\frac{1}{3}$ (C) $2\frac{3}{8}$ (D) $2\frac{1}{2}$ (E) 2

4. A recipe calls for 1 lb. 8 oz. of ground beef. The recipe serves 4 people. How much ground beef is needed for the recipe to serve 12 people?

   (A) 3 lbs. 4 oz.9 (B) 4 lbs. 4 oz. (C) 4 lbs. 8 oz. (D) 5 lbs. 4 oz. (E) 6 lbs.

5. 40% of the 1,600 graduates of Elwood High are male. 5% of the male graduates joined the army. How many male graduates joined the army?

   (A) 16 (B) 20 (C) 22 (D) 25 (E) 32

6. Ike uses $\frac{1}{8}$ of his income to pay off a car loan. $\frac{1}{3}$ of his loan payment goes to pay interest on the loan. What fraction of Ike's total income goes to pay interest on his car loan?

   (A) $\frac{3}{8}$ (B) $\frac{1}{24}$ (C) $\frac{1}{12}$ (D) $\frac{1}{18}$ (E) $\frac{1}{11}$

7. 22% of Danny's weekly salary is deducted from his paycheck. Federal income tax deductions account for 40% of the total deductions. If Danny's weekly salary is $265, how much is taken out for federal income tax each week.

   (A) $18.92 (B) $22.32 (C) $22.88 (D) $23.22 (E) $23.32

Answers: 1. D; 2. C; 3. A; 4. C; 5. E; 6. B; 7. E

Reading Exercises

and answers

The basic skills reading test contains passages that deal with natural science, social sciences, and general and current issues. The test measures the student's ability to comprehend ideas and specific details; to make inferences; and to understand the meanings of words in context. (The simulated reading test included in this study guide mimics in content and format the MAPS.)

The reading passages and questions that follow will exercise your student's critcial thinking skills. These passages reflect content in literature, social science and science. A good place to look for more reading exercises are in GED science, social studies, and literature and arts texts published by Contemporary, Steck-Vaughn and Cambridge. If your program provides GED instruction, you may already have some of these resources available.

Selective Bibliography for Reading Review

Arco Nursing School Entrance Examinations
New York: Arco Publishing Company

Reading and Critical Thinking in the Content Areas
Austin: Steck-Vaughn Co.

Reading Exercise

Questions 1-3 refer to the following passage.

In the fall the war was always there, but we did not go to it any more. It was cold in the fall in Milan and the dark came very early. Then the electric lights came on, and it was pleasant along the streets looking in the windows. There was much game hanging outside the shops, and the snow powdered in the fur of the foxes and the wind blew their tales. The deer hung stiff and heavy and empty, and small birds blew in the wind and the wind turned their feathers. It was a cold fall and the wind came down from the mountain.

We were all at the hospital every afternoon, and there were different ways of walking across the town through the dusk to the hospital. Two of the ways were alongside canals, but they were long. Always, though, you crossed a bridge across a canal to enter the hospital. There was a choice of three bridges. On one of them a woman sold roasted chestnuts. It was warm, standing in front of her charcoal fire, and the chestnuts were warm afterward in your pocket. The hospital was very old and very beautiful, and you entered through a gate and walked across a courtyard and out a gate on the other side. There were usually funerals starting from the courtyard. Beyond the old hospital were the new brick pavilions, and there we met every afternoon and were all very polite and interested in what was the matter, and sat in the machines that were to make so much difference.

The doctor came up to the machine where I was sitting and said: "What did you like best to do before the war?" Did you practice a sport?"

I said: "Yes, football."

"Good," he said. "You will be able to play football again better than ever."

1. From the information in the rest of the passage, you can infer that the meaning of the first sentence is that the author was

   (1) tired of the war.
   (2) an army doctor stationed in Milan.
   (3) too cold to go to the battlefront.
   (4) injured in the war.
   (5) more interested in machines.

2. From the statement, "There were usually funerals starting from the courtyard," you can conclude that

   (1) the machines were sometimes responsible for killing patients.
   (2) medical care in Italy is not as good as in the United States.
   (3) the hospital was part of a concentration camp.
   (4) there were many casualties in the war.
   (5) everyone who went to the hospital eventually died.

3. In which of the following months could the story have taken place?

(1) November
(2) January
(3) March
(4) May
(5) July

Questions 4-6 refer to the following passage.

Congress has created several regulatory commissions that protect citizens from certain economic problems. Regulatory commissions make rules and come to decisions that affect banking, transportation, labor unions, communications, and other corporations. These commissions make rules about what businesses can and cannot do. They also help to settle disputes between opposing parties.

One of these commissions is the Federal Communications Commission, or FCC. The FCC licenses all radio and television stations. It decides how broadcasting wavelenghts and channels are used based on whether "public convenience, interest, or necessity" is well served. If the FCC doesn't think that a station is operating for the public benefit, it can take away the station's license to broadcast.

When Congress establishes a commission, it makes sure that the commission is independent. The president is not allowed to fire commission members or chairpersons. In this way, Congress keeps the commissions from being pressured by political issues. Instead, the commission is free to act in the public interest.

4. Which of the following statements best summarizes the passage?

(1) The FCC is a good example of a regulatory commission.
(2) Only Congress can create regulatory commissions.
(3) Regulatory commissions are apolitical and help to protect the public's interest.
(4) Banking, transportation, labor unions, communications and other corporations must be regulated to remain independent of political pressure.
(5) The FCC licenses all radio and television stations.

5. The information in the paragraphs supports the conclusion that

(1) most television stations follow the FCC's rules.
(2) the FCC is the most powerful regulatory commission.
(3) broadcast wavelengths have to be shared carefully so that stations do not overlap.
(4) the FCC has the final say about defining public benefit.
(5) the FCC never makes an unfair ruling.

6. The FCC decides "how broadcasting wavelengths and channels are used based on whether 'public convenience, interest, or necessity is well served.'" You can infer from this passage that regulatory commissions were formed because

(1) citizens had too much control over their economic lives.
(2) the president felt it was important.
(3) congress was overwhelmed by economic problems.
(4) certain businesses were sometimes operating against the public interest.
(5) corporations needed protection from regulatory constraints.

Questions 7-9 refer to the following passage.

All the trouble began when my grandfather died and my grandmother--my father's mother--came to live with us. Relations in one house are a strain at the best of times, but, to make matters worse, my grandmother was an old country woman and quite unsuited to the life in town. She had a fat, wrinkled old face, and, to Mother's great indignation, went round the house in bare feet--the boots had her crippled, she said. For dinner she had a jug of porter and a pot of potatoes with--sometimes--a bit of salt fish, and she poured out the potatoes on the table and ate them slowly, with great relish, using her fingers by way of a fork.

Now, girls are supposed to be fastidious, but I was the one who suffered most from this. Nora, my sister, just sucked up to the old woman for the penny she got every Friday out of the old-age pension, a thing I could not do. I was too honest, that was my trouble; and when I was playing with Bill Connell, the sergeant-major's son, and saw my grandmother steering up the path with the jug of porter sticking out from beneath her shawl, I was mortified. I made excuses not to let him come into the house, because I could never be sure what she would be up to when we went in.

When Mother was at work and my grandmother made the dinner I wouldn't touch it. Nora once tried to make me, but I hid under the table from her and took the bread knife with me for protection. Nora let on to be very indignant (she wasn't, of course, but she knew Mother saw through her, so she sided with Gran) and came after me. I lashed out at her with the bread-knife, and after that she left me alone. I stayed there till Mother came in from work and made my dinner, but when Father came in later Nora said in a shocked voice: "Oh, Dadda, do you know what Jackie did at dinner time?" Then, of course it all came out; Father gave me a flaking; Mother interfered, and for days after that he didn't speak to me and Mother barely spoke to Nora. And all because of that old woman! God knows, I was heart-scalded.

7. The word "mortified" in paragraph 2 most likely means

(1) deadened
(2) surprised
(3) destroyed
(4) frightened
(5) embarrassed

8. All of the following describe the grandmother EXCEPT that she

   (1) wore torn and dirty clothes.
   (2) carried around a jug of porter.
   (3) ate with her hands.
   (4) sometimes made dinner.
   (5) wore no shores indoors.

9. The author would probably consider Jackie to be

   (1) more like his mother than Nora.
   (2) like his grandmother.
   (3) more interested in money than Nora.
   (4) hard to embarrass.
   (5) dishonest.

Questions 10-12 refer to the following passage.

I spoke to him then about the war. I said the same things people always say when they speak against the war. I said that the war was wrong. I said that large countries should not burn down small countries. I said that the government had made a series of errors. I said that these errors once small and forgivable were now immense and unforgivable. I said that the government was attempting to conceal its orignial errors under layers of new errors. I said that the government was sick with error, giddy with it. I said that ten thousand of our soldiers had already been killed in pursuit of the government's errors. I said that tens of thousands of the enemy's soldiers and civilians had been killed because of various errors, ours and theirs. I said that we are responsible for errors made in our name. I said that the government should not be allowed to make additional errors.

"Yes, yes," the chief engineer said, "there is doubtless much truth in what you say, but we can't possibly lose the war, can we? And stopping is losing, isn't it? The war regarded as a process, stopping regarded as an abort? We don't know how to lose a war. That skill is not among our skills. Our army smashes their army, that is what we know. That is the process. That is what is."

10. What does the narrator feel is the chief cause of the war?

    (1) a misunderstanding between the two nations
    (2) errors made by the governments
    (3) improper behavior by soldiers
    (4) lack of protest from concerned people
    (5) the refusal of the chief engineer to stop the war

11. The narrator's attitude toward war is best described as one of
    (1) noninvolvement
    (2) tolerance
    (3) amazement
    (4) enthusiasm
    (5) disgust

(5) disgust

12. With which of the following statements regarding war would the chief engineer most likely agree?

(1) War is evil.
(2) Not finishing a war is the same as losing a war.
(3) This war is a war that should be stopped.
(4) There is never anything worth fighting for.
(5) In order for the economy of our country to be healthy, it is necessary to engage in war.

Questions 13-15 refer to the following passage.

Cultural values sometimes make life a little awkward. Two sets of values can come into conflict with each other. For example, a mainland artist was hired to go to Alaska to paint murals and teach art classes in several isolated towns. Mr. Lee spent several months in each town, living in what rooms the townspeople could supply. Because they could not afford to pay Lee much, he was offered free meals, eating with a different family each night. The families all thought that having the artist as a guest was an honor. To express that feeling, they served their very best meal. In most of these towns, pot roast was regarded as an expensive treat, hard to get because beef usually had to be flown in by small planes. So night after night, each family served Mr. Lee the very best meal, pot roast. In town after town, Mr. Lee ate pot roast. When on familly offered him a dinner of whale blubber, he was delighted. When Mr. Lee finally returned home and visited his mother, she served him pot roast. Mr. Lee, claiming that the airplane flight had made him feel ill, skipped dinner that night.

13. "Two sets of values can come into conflict with each other" (lines 1 & 2). How does the author express this conflict?

(1) Mr. Lee had to lie to his mother to avoid another meal of pot roast because he had eaten so many in Alaska.
(2) Poor Alaskan townspeople had to buy expensive beef in order to please Mr. Lee.
(3) Mr. Lee was asked to teach art and paint murals in isolated towns of Alaska because these towns had no artists of their own.
(4) Mr. Lee had expected currency as payment but received instead food.
(5) None of the townspeople could afford to feed and lodge Mr. Lee for more than one night, so he had to spend each night with a different family.

14. During all the months of eating pot roast, Mr. Lee did not complain. By continuing to eat the families' meals, he was demonstrating

(1) that he really loved pot roast.
(2) that he had an iron stomach.
(3) respect for his elders.
(4) respect for his hosts.
(5) disrespect for his own values.

15. Which of the following would be the most appropriate title for the passage?

(1) "Free Meals and Lodging for an Artist"
(2) "The Polite Thing to Do"
(3) "Mr. Lee Travels to Alaska"
(4) "Alaskans Love Pot Roast"
(5) "The Visiting Artist"

Questions 16-18 refer to the following passage.

That spring, when I had a great deal of potential and no money at all, I took a job as a janitor. That was when I was still very young and spent money very freely, and when, almost every night, I drifted off to sleep lulled by sweet anticipation of that time when my potential would suddenly be realized and there would be capsul biographies of my life on dust jackets of many books, all proclaiming: " . . . He knew life on many levels. From shoe shine boy, free-lance waiter, 3rd cook, janitor, he rose to . . ." I had never been a janitor before and I did not really have to be one and that is why I did it. But now, much later, I think it might have been because it is possible to be a janitor without really becoming one, and at parties or at mixers when asked what it was I did for living, it was pretty good to hook my thumbs in my vest pockets and say comfortably: "Why, I am an apprentice janitor." The hippies would think it degenerate and really dig me and it made me feel good that people in Philosophy and Law and Business would feel uncomfortable trying to make me feel better about my station while wondering how the hell I managed to crash the party.

16. In the last sentence, the word "station" is used to mean

(1) janitor
(2) posture
(3) position
(4) depot
(5) salary

17. By stating in the last sentence that people in Philosophy, Law and Business would wonder how he had been able to crash the party, the narrator means that these people would think that he

(1) was not really a janitor.
(2) had not really been invited to the party.
(3) was too smart to be a janitor.
(4) had made a nuisance out of himself.
(5) probably felt uncomfortable.

18. The information in the passage tells you that, in his youth, the narrator liked to do all of the following EXCEPT

(1) spend money
(2) go to parties
(3) sleep late
(4) dream about the future
(5) work at different jobs

Questions19-21 refer to the following passage.

Many animals live with their own kind for the purposes of feeding, reproducing, migrating and for mutual protection. Fish swim together in schools, elephants roam together in herds, wolves hunt together in packs, and ducks migrate together in flocks. The most complex living arrangement, though, occurs with the social insects: ants, bees, wasps, and termites. Social insects form groups in which the needs of the group are more important than the needs of any particular member. Each individual is specially adapted to perform a function for the group, not for itself. In fact, the group's survival often depends on individuals giving up their own lives!

Social insects are characterized by several kinds of group behavior. They live together, forming a colony or hive; they care for their young; they often feed each other as well as their young, and they usually all stem from the same female parent who is the lone queen of the colony or hive.

Each type of member of a social-insect group differs in both shape and function from other types. For example, a honeybee hive consists of a single queen bee, many worker bees (underdeveloped female bees), and many drones (male bees). The sole job of the queen, the largest honeybee, is to lay the eggs. A worker's job is more varied: she must gather nectar, feed and care for the queen and drones, and keep the hive clean and cool. A drone's only task is to fertilize the queen bee when she is aloft in the "marriage flight." After the drone performs this single task, he dies.

If the hive is attacked, the workers fight back and sting the aggressor. Once a worker has stung the aggressor, the worker dies. Unlike other animal associations, social-insect groups place the survival of the group at a much higher level of importance than the survival of any individual in the group, except for perhaps one--the queen.

19. Which of the following is the best summary of key points made in the passage of social insects?

(1) Social insects work together, each member of a group playing a role to aid in the survival of the group.
(2) Social- insect members vary in both shape and function.
(3) Social-insect groups place low value on the lives of those members designated as workers.
(4) Social-insect groups are inefficient because many members do little or no work.
(5) Members of social-insect groups must often sacrifice their own lives.

20. Social insects such as ants, bees, wasps, and termites possess a 'complex living arrangement.' This complexity is expressed in all but one of the following

(1) different shapes and functions of the members
(2) aggressive nature of members
(3) priority of group needs over those of members
(4) life in a colony or hive
(5) members possess common female parent

21. Which of the following would best explain the presence of a lot of dead worker bees on the ground in an area around a beehive?

(1) The hive was hit by a falling branch.
(2) The worker bees accidently gathered poison nectar.
(3) The worker bees had mated with the drones.
(4) The hive was disturbed by a bear looking for honey.
(5) The drones killed the worker bees to make more room in the crowed hive for newly developing bees.

Questions 22-24 refer to the following passage.

My free life began on the third of September, 1838. On the morning of the 4th of that month, after an anxious and most perilous but safe journey, I found myself in the big city of New York, a free man, one more added to the mighty throng which, like the confused waves of the troubled sea, surged to and fro between the lofty walls of Broadway. Though dazzled with the wonders which met me on every hand, my thoughts could not be much withdrawn from my strange situation. For the moment the dreams of my youth and the hopes of my manhood were completely fulfilled. The bonds that had held me to "old master" were broken. No man now had a right to call me his slave or assert mastery over me. I was in the rough and tumble of an outdoor world, to take my chance with the rest of its number. I have often been asked how I felt when first I found myself on free soil. My readers may share the same curiousity. There is scarcely anything in my experience about which I could not give a more satisfactory answer. A new world had opened upon me. If life is more than breath, and the "quick round of blood," I lived more in one day than in a year of my slave life.

was a time of joyous excitement which words can but tamely describe. In a letter written to a friend soon after reaching New York, I said: "I felt as one might feel upon escape froma den of hungry lions." Anguish and grief, like darkness and rain, may be depicted, but gladness and joy, like the rainbow, defy the skill of pen and pencil.

22. The author is primarily concerned with

(1) convincing the reader that all other men should be set free.
(2) praising the legislators who enacted laws that freed slaves.
(3) explaining what he did when he was a slave.
(4) describing his feelings upon being released from slavery.
(5) critizing former slave owners.

23. It can be concluded from the passage that during his first day of freedom the author was

(1) baffled
(2) elated
(3) doomed
(4) frightened
(5) discouraged

24. By "Anguish and grief, like darkness and rain, may be depiced, but gladness and joy, like the rainbow, defy the skill of pen or pencil," the author means

(1) when writing, it is harder to describe joy than sorrow.
(2) he prefers a rainbow to darkness and rain.
(3) it is easier to feel sorrow than joy.
(4) he would prefer to experience joy than to write about it.
(5) it is impossible to draw a rainbow.

Questions 25-27 refer to the following passage.

Mother says that when I start talking I never know when to stop. But I tell her the only time I get a chance is when she ain't around, so I have to make the most of it. I guess the fact is neither one of us would be welcome in a Quaker meeting, but as I tell Mother, what did God give us tongues for if He didn't want we should use them? Only she says He didn't give them to us to say the same thing over and over again, like I do, and repeat myself. But I say:

"Well, Mother," I say, "when people is like you and I and been married fifty years, do you expect everything I say will be something you ain't heard me say before? But it may be new to others, as they ain't nobody else lived with me as long as you have."

So she says:

"You can bet they ain't, as they couldn't nobody else stand you that long."

"Well," I tell her, "you look pretty healthy."

"Maybe I do," she will say, "but I looked even healthier before I married you."

You can't get ahead of Mother.

25. According to the narrator, after fifty years of marriage it is difficult to

(1) love your wife.
(2) find new things to say.
(3) stay healthy.
(4) get ahead.
(5) stop talking.

26. According to the passage, which of the following statements is true of both Mother and her husband?

(1) They are Quakers.
(2) They repeat themselves frequently.
(3) They are healthy.
(4) They are big talkers.
(5) They are unhappy.

27. It can be inferred that, compared with the narrator, Mother

(1) got along better with others.
(2) was smarter.
(3) was healthier.
(4) was much younger.
(5) won the most arguments.

Questions 28-30 refer to the following passage.

Geologist believe that the Earth's surface is made up of slowly moving rigid plates. Devastating earthquakes often occur along the boundary line where two plates meet. An example is the earthquake activity along the San Andreas fault in California. Along this fault, or collision boundary, the slowly moving Pacific plate pushes against the continental plate and causes a buildup of pressure. Occasionally a sudden slippage occurs, and a tremendous amount of earth-shaking energy is released. Such an earthquake destroyed the city of San Francisco in 1906.

The San Andreas Fault can be drawn on a map as a line that runs throughout the length of California. This fault passes near San Francisco in the north and Los Angeles in the south, two major population regions on the West Coast. Slippage anywhere along the the San Andreas fault can result in major earthquakes in nearby areas and smaller earthquakes througout the entire state of California.

No one can predict for sure just where or when the next major earthquake will strike. Every point along the fault must be considered at equal risk. For this reason, most buildings in cities near the fault zone are specially designed to be earthquake proof.

28. A fault can best be described as

(1) a line drawn between two recorded earthquakes.
(2) a boundary line between two crustal plates.
(3) a boundary line that divides a state into two regions.
(4) a boundary line that separates a region of high population from a region of low population.
(5) a boundary line between two major population centers.

29. Which of the following is not a conclusion that can be drawn from information given in the passage?

(1) In California, some buildings are constructed with earthquake danger in mind.
(2) The San Francisco earthquake of 1906 resulted from slippage along the San Andreas fault.
(3) People living along the San Andreas fault are more likely to be injured in an earthquake than people living in other parts of California.
(4) Major earthquake danger is less in San Francisco than in Los Angeles because San francisco has already had a major quake in this century.
(5) Because the islands of Japan also lie along a fault, Japan also faces the danger of earthquakes.

30. A geologist is trying to predict when an earthquake might occur in or near Redding, California. Each of the following will be important to this study *except*

(1) the history of earthquakes in and around the city of Redding.
(2) the pattern of yearly weather conditions in and around the city of Redding.
(3) the distance Redding lies from the San Andreas fault.
(4) the types of land formations around Redding.
(5) the history of earthquake activity in other areas of California that are geologically similar to the Redding area.

Questions 31-33 refer to the following passage.

Nick sat quiet.

"You came out of it damned well," Bill said. "Now she can marry somebody of her own sort and settle down and be happy. You can't mix oil and water and you can't mix that sort of thing any more than if I'd marry Ida that works for Strattons. She'd probably like it, too."

Nick said nothing. The liquor had all died out of him and left him alone. Bill wasn't there. He wasn't sitting in front of the fire or going fishing tomorrow with Bill and his dad or anything. He wasn't drunk. It was all gone. All he knew was that he had once had Marjorie and that he had lost her. She was gone and he had sent her away. That was all that mattered. He might never see her again. Probably he never would. It was all gone, finished.

"Let's have another drink," Nick said.

31. When the author says "Bill wasn't there," he means

(1) Nick couldn't see Bill.
(2) Bill went away for a few minutes.
(3) Bill was angry at Nick.
(4) Bill's presence could not comfort Nick.
(5) Bill did not want to be with Nick in his time of need.

32. Which of the following best expresses the central idea of the passage?

(1) Nick was feeling down, but he knew he'd soon be feeling better.
(2) Liquor was the only thing that made Nick feel any better.
(3) Bill was successfully helping Nick to get over his pain.
(4) Nick was trying to forget Majorie.
(5) Nick felt as though his world had ended because his relationship with Marjorie had ended.

33. Which of the following descriptions of the relationship between Nick and Marjorie is supported by the passage?

(1) They had known each other for six months.
(2) They were married.
(3) Their differences would have prevented a happy relationship.
(4) They had been childhood sweethearts.
(5) Prior to their breakup, they had been inseparable.

Questions 34-36 refer to the following

Income in the United States is distributed unequally. Although the U.S. is considered a middle-class society, the poorest fifth of our country earns only 5 percent of the income while the richest fifth earns 40 percent of the income. In 1984, 11 percent of U.S. adults and 21 percent of U.S. children were at poverty levels. Many of these poor lack the education necessary to hold a job in our technological society.

The difference in income between the wealthy and the poor has increased over the past decade. Prices for necessities like food and housing have increased more rapidly than the minimum wage. Consequently, the poor have become poorer in terms of their ability to pay for necessities.

34. According to the writer, what is a partial cause for unequal distribution of income?

(1) The cost of food has become higher than the cost of housing.
(2) There is a lack of appropriate schooling.
(3) People pretend to be middle class.
(4) Prices have increased more rapidly than wages.
(5) Many people are at poverty level.

35. According to the writer, which is an effect of the more rapid increase in prices?

(1) increased inequality of income
(2) more equal income
(3) less money for social welfare programs
(4) more poor children
(5) more people in the middle class

36. It can be concluded from the paragraphs that

(1) only 5 percent of Americans are at poverty level.
(2) at least 32 percent of Americans are at poverty level.
(3) three fifth of Americans are middle-class.
(4) 32 percent of Americans earn the minimum wage.
(5) 40 percent of American are wealthy.

Questions 37-39 refer to the following passage.

We were poor. We had no money. Our whole tribe was poverty-stricken. Every branch of the Garoghianian family was living in the most amazing and comical poverty in the world. Nobody could understand where we ever got money enough to keep us with food in our bellies, not even the old men of the family. Most important of all, though, we were famous for our honesty. We had been famous for our honesty for something like eleven centuries, even when we had been the wealthiest family in what we like to think was the world. We were proud first, honest next, and after that we believed in right and wrong. None of us would take advantage of anybody in the world, let alone steal.

Consequently, even though I could see the horse, so magnificent; even though I could smell it, so lovely; even though I could hear it breathing, so exciting; I couldn't believe the horse had anything to do with my cousin Mourad or with men or with any of the other members of our family, asleep or awake, because I knew my cousin Mourad couldn't have bought the horse, and if he couldn't have bought it he must have stolen it, and I refused to believe he had stolen it.

No member of the Garoghlanian family could be a thief.

I stared first at my cousin and then at the horse. There was a pious stillness and humor in each of them which on the one hand delighted me and on the other frightened me.

Mourad, I said, where did you steal this horse?

Leap out of the window, he said, if you want a ride.

It was true, then. He had stolen the horse. There was no question about it. He had come to invite me to ride or not, as I chose.

Well, it seemed to me stealing a horse for a ride was not the same thing as stealing something else, such as money. For all I knew, maybe it wasn't stealing at all. If you were crazy about horses the way my cousin Mourad and I were, it wasn't stealing. It wouldn't become stealing until we offered to sell the horse, which of course I knew we would never do.

Let me put on some clothes, I said.

37. All of the following words describe the members of the Garoghlanian family EXCEPT

(1) moral
(2) greedy
(3) proud
(4) poor
(5) honest

38. It can be inferred that the narrator knew for sure that Mourad had stolen the horse because Mourad

(1) could not look his cousin in the eye when he was accused of stealing the horse.
(2) could not have afforded the horse.
(3) blushed when his cousin accused him of stealing the horse.
(4) did not deny stealing the horse when his cousin accused him of doing so.
(5) was acting guilty.

39. From the information in the next to last paragraph concerning his feelings about horse stealing, it can be concluded that the narrator will probably

(1) go for a ride on the horse.
(2) tell the police that Mourad has stolen a horse.
(3) sell the horse that Mourad has stolen.
(4) steal another horse for himself.
(5) stop talking to Mourad.

Questions 40-42 refer to the following passage.

The Mesozoic era, called the Age of the Reptiles, began about 225 million years ago. During this era, the giant reptiles called dinosaurs--from the Greek word meaning "terrible lizard"--roamed the earth. For over 150 million years, these wondrous and feared creatures dominated all other life forms. Then about 70 million years ago, the dinosaurs suddenly disappeared. In fact, the only reptiles that survived this period were the ones we today know as snakes, lizards, turtles, and crocodiles.

The reason for the dinosaurs' extinction remains one of the strangest mysteries in science. According to one popular theory, the Earth collided with a large asteroid or comet from space. This collision kicked a lot of dirt up into the atmosphere. With only a little sunlight able to get through the darkened atmosphere, the temperature of the Earth's surface rapidly decreased. Before long, possibly only a few months, the whole Earth froze, and an ice age began. All tropical forests quickly died, as did all of the animals such as the dinosaurs that depended on the lush vegetation for their survival.

With the disappearance of the dinosaur, another animal form became dominant. This next era, called the Age of Mammals, is the one we're still in and hope to be in for a long time to come!

40. One effect of an ice age, mentioned in the passage, would be

(1) the beginning of the Mesozoic era.
(2) a drop in temperature at the Earth's surface.
(3) a collision between the Earth and a comet.
(4) the emergence of mammals.
(5) the death of tropical forests.

41. According to the passage, a cause of the end of the Mesozoic era could have been

(1) the disappearance of dinosaurs from the Earth.
(2) the sudden occurrence of an ice age.
(3) the survival of snakes, lizards, and turtles.
(4) the beginning of the Age of Mammals.
(5) the rise of human beings as a dominant life form.

42. According to the theory presented in the passage, what exactly was the cause of the dinosaurs' death?

(1) the collision of the Earth with an object from space
(2) the emergence of mammals as a new life form
(3) the extremely low temperature of the air
(4) the disappearance of their food supply
(5) the lack of sunlight by which to see

Questions 43-44 refer to the following passage.

Before you dump used motor oil on the ground or throw it in the garbage, think about your alternatives. You can take the oil to a recycling center, or you can give it to a service station that will have it recycled for you. To recycle means to reuse materials rather than throwing them away.

Recycling is the most environmentally sound thing you can do with old motor oil. When oil is not recycled, it is dumped on the ground or buried in a landfill, where it might well end up in your drinking water or food. What's more, dumped oil poses an immediate threat to the health of birds, small land animals, and plants. In spite of these dangers, only about 10 percent of all used oil is presently being recycled. The other 90 percent ends up in the ground.

If you change your own car oil, look around your community for a recycling service that may pick up the old oil at your home free of charge. If there isn't any, then take your old oil to a service station. Service station employees take the unwanted oil and store it until it can be picked up by a collection truck. The truck takes used oil to a refinery where it is refined once again just as if it had been freshly pumped from an oil well. After being restored to good condition, your old oil is ready to be sold again. This completes the recycling process. You've done your share to keep your environment clean, and you've helped preserve a limited natural resource.

43. Why does the author suggest taking old oil to a service station?

(1) Service stations do not charge much for oil changes.
(2) At a service station, you can buy new oil to replace the old.
(3) A service station will clean old oil and resell it.
(4) A service station will see that your old oil gets recycled at a refinery.
(5) A service station makes money by collecting and selling used oil.

44. Which of the following statements is the best summary of the author's main point?

(1) Recycling old car oil will save you money in the long run because it will ensure that the oil in oil wells will last longer.
(2) Because of problems with old oil, it would be better if people didn't change their car oil very often.
(3) Recycling old car oil is an action you can take to help protect and preserve your environment.
(4) Oil in drinking water and food is a serious health hazard throughout the United States.
(5) Each community should assume the responsibility of building an oil recycling center.

Question 45 refers to the following passage.

To become a functioning member of a society, a person must learn the beliefs, values, and standards acceptable to that society. One way a person learns is through peer groups. These are informal groups of people, usually of about the same age and having similar interests. A church, a school class, an Army platoon are all examples of peer groups. Peer groups can exert considerable pressure on an individual to look and act in a certain way.

45. Usually a person successfully learns the values and standards of a peer group. As a result, that person is likely to have a sense of

(1) belonging
(2) individuality
(3) alienation
(4) inferiority
(5) hostility

Questions 46-48 refer to the following passage.

Mary walked along the road and down the hill toward Wilmott Street. Broken bits of the story concerning her mother that had for years circulated in town had reached her ears. Her mother, it was said, had disappeared on a summer night long ago and a young town rough, who had been in the habit of loitering before Barney Smithfield's Livery Barn, had gone away with her. Now another young rough was trying to make up to her. The thought made her furious.

Her mind groped about striving to lay hold of some weapon with which she could strike a more telling blow on Duke Yetter. In desperation it lit upon the figure of her father already broken in health and now about to die. "My father justs wants the chance to kill some such fellow as you," she shouted, turning to face the young man, who having got clear of the mass of vines in the orchard, had followed her into the road. "My father just wants to kill someone because of the lies that have been told in this town about mother."

Having given way to the impulse to threaten Duke Yetter, Mary was instantly ashamed of her outburst and walked rapidly along, the tears running from her eyes. With hanging head Duke walked at her heals. "I didn't mean no harm, Miss Cochran," he pleaded. "I didn't mean no harm. Dont' tell your father. I was only funning with you. I tell you I didn't mean no harm."

46. According to the passage, what were Mary's thoughts about Duke Yetter?

(1) Mary thought that Duke was going to hurt her.
(2) Mary thought that Duke was after her money.
(3) Mary thought that Duke wanted to kill her father.
(4) Mary thought that Duke was spreading lies around about her mother.
(5) Mary thought that Duke was like the young rough that had gone with her mother.

47. Why was Mary crying?

(1) because she was ashamed
(2) because she was afraid of Duke
(3) because she was sad about her father's illness
(4) because she felt upset that her mother had left her
(5) because she felt sorry for herself

48. According to what Duke says at the end of the passage, he has been following Mary because

(1) he is in love with her.
(2) he wants to talk to her father.
(3) he was playing a joke on her.
(4) he has news about her mother.
(5) he wants to run away with her.

Questions 49-51 refer to the following passage.

At exactly fifteen minutes past eight in the morning, on August 6, 1945, Japenese time, at the moment when the atomic bomb flashed above Hiroshima, Miss Toshiko Sasaki, a clerk in the personnel department of the East Asia Tin Works, had just sat down at her desk. At that same moment, Dr. Masakazu Fujii was settling down cross-legged to read the Osaka Asahi on the porch of his private hospital, overhanging one of the seven deltaic rivers which divide Hiroshima; Mrs. Hatsuyo

Nakamura, a tailor's widow, stood by the path of an air-raid-defense fire lane; Father Wilhelm Kleinsorge, a German priest of the Society of Jesus, reclined in his underwear on a cot on the top floor of his order's three-story mission house, reading a Jesuit magazine, *Stimmen der Zeit*; Dr. Terufumi Sasaki, a young member of the surgical staff of the city's large, modern Red Cross Hospital, walked along one of the hopital corridors with a blood specimen for a Wassermann test in his hand; and the Reverend Mr. Kiyoshi Tanimoto, pastor of the Hiroshima Methodist Church, paused at the door of a rich man's house in Koi, the city's western suburb, and prepared to unload a handcart full of things he had evacuted from town in fear of the massive B-29 raid which everyone expected Hirsohima to suffer. A hundred thousand people were killed by the atomic bomb, and these six were among the survivors. They still wonder why they lived when so many others died. Each of them counts many small items of chance or volition--a step in time, a decision to go indoors, catching one streetcar instead of the next--spared him. And how each knows that in the act of survival he lived a dozen lives and saw more death than he ever thought he would see. At the time, none of them knew anything.

49. The author describes the activities of each of the survivors at 8:15 a.m. on August 6, 1945, to show that this day

    (1) will go down in history.
    (2) was a horrible day for these people.
    (3) started out as an ordinary day.
    (4) will always be remembered by these people.
    (5) was a day of great anticipation.

50. According to the passage, the people who survived the bombing did so because they were

    (1) lucky
    (2) special people
    (3) prepared
    (4) cautious
    (5) spared by the bombers

51. From the information in the passage, what can be concluded about what happened to the survivors after the bomb exploded?

    (1) They lived happy, healthy lives.
    (2) They forgot what happened that day.
    (3) They all left Japan.
    (4) They became ill.
    (5) They witnessed much horror.

Answers and Explanations

1. (4) You can infer that the narrator doesn't go to the war because he has to go to the hospital instead. You can further infer that he goes to the hospital to get treatments on a machine that will help him overcome an injury received in the war.

2. (4) The hospital takes care of men who have been injured in the war. The fact that funerals were an almost daily occurrence is most likely because many people were dying from their injuries. There is no evidence in the passage to support any of the other conclusions.

3. (1) The narrator states that it is fall.

4. (3) In the first paragraph the author states "Congress has created several regulatory commissions that protect citizens from certain economic problems." And in the third paragraph, the author states "Congress . . . makes sure the commission is independent." Answer (1) is an opinion and not necessarily supported in the passage. Answers (2) and (5) are simple pieces of factual information, and answer (4), thought true, fails to clarify why these businesses must remain independent of political pressure--to serve the public's interest.

7. (5) You can infer that "mortified" means "embarrassed." Jackie was very embarrassed by his grandmother's behavior. You can tell this because he made excuses not to bring his friend into the house.

8. (1) The grandmother's clothes are not described in the passage.

9. (1) Jackie and his mother were both embarrassed by the old lady's actions. Nora was not.

10. (2) The first paragraph gives the narrator's point of view about the war. Throughout the paragraph, the narrator says that smaller errors made by the government have led to bigger errors, namely the war.

11. (5) From everything that is said in the first paragraph, you can tell that the narrator is disgusted by the war. Such phrases as "the war was wrong" and "the government was sick with error" are clues to the narrator's feelings.

12. (2) The chief engineer tells the narrator that stopping a war is the same as losing a war.

13. (1) In order to appear appreciative to his hosts, Mr. Lee ate pot roast night after night. By doing so, he respected the culture of those townspeople who wished to provide him their best. Likewise, good manners within his own culture would have dictated that he eat his mother's meal of pot roast. Still, he couldn't bring himself to eat another meal of pot roast and to avoid doing so, he

had to lie. This clearly shows a conflict.

14. (4) You can infer that he ate it night after night out of respect for his hosts. Answers (1) and (2) are not supported, and we can presume that some of his hosts were not elders (3). Finally, he in no way compromised his own values by being polite (5).

15. (2) "The Polite Thing to Do" implies behaving in a way that is expected, i.e., conforming to cultural norms. Titles (1), (3), and (5) do not address the issue of cultural values and though (4) may be true, it does not reflect the point of the passage.

16. (3) "Station," as it is used in the passage, refers to the narrator's social position.

17. (2) The last sentence expresses a contrast: on the one hand they would be trying to make him feel good about being a janitor, but they would really be thinking that he did not belong at the party. They would think that he had "crashed" the party.

18. (3) The narrator discusses spending money, going to parties, dreaming of the future, and having different jobs. He does not mention liking to sleep late.

19. (1) Only choice (1) accurately sums up the main idea of the passage. Choices (2), (3), and (5) are only details, and (4) is not true.

20. (2) Although the passage defines the worker as aggressive toward attackers, its aggression is not what distinguishes it from other animals such as wolves or elephants which can also be aggressive. What sets the social insect apart as 'complex' is its willingness to die for the good of the group.

21. (4) If a hive is attacked, the worker bees sting the aggressor and then die. In this case, the bear is the aggressor.

22. (4) The author describes his reponses to becoming a free man. This is the main point of the passage.

23. (2) The author was elated: "It was a time of joyous excitement which words can but tamely describe."

24. (1) The author finds that he can write about anguish and grief but has difficulty conveying feelings of gladness and joy in his writings. The phrase "defy the skill of the pen and pencil" is the clue.

25. (1) In the passage, the narrator asks Mother if she expects everything he says to be something she has not heard before. The implication is that this is not a reasonable expectation after fifty years of marriage.

38. (4) In the passage, the narrator figures out that Mourad had stolen the horse right after Mourad did not answer the question about stealing the horse. You can infer that the narrator became convinced that the horse had been stolen because Mourad did not deny stealing the horse after having been accused of doing so.

39. (1) At the end of the passage, the narrator explains that stealing a horse is not really stealing unless they were to sell it. He says they would never do that, so choice (3) is out. Since Mourad did not really steal the horse in the narrator's way of thinking, there is no need to call the police or to stop talking to Mourad choices (2) and (5). He does not talk about stealing a horse for himself choice (4).

40. (5) Of the answer choices, only the death of tropical forests is a direct effect of an ice age. Answer (2) is not an effect--it is part of the definition of what an ice age is.

41. (2) Only answer (2) is a cause that could have brought about the end of the Mesozoic era. Each of the other answers is related to the Mesozoic era, but none of these answers is a cause.

42. (4) According to the passage, dinosaurs died because of the death of the tropical forests, the lush vegetation that was their food supply.

43. (4) The recycling of used oil is mentioned in both the first and third paragraphs.

44. (3) Throughout the passage, the author stresses that recycling old oil is something you can do that will benefit the environment.

45. (1) Belonging. A person who learns the values and standareds of the group is likely to be accepted into the group. Being accepted should give one a sense of belonging.

46. (5) In the first paragraph, Mary remembers the "young town rough" who had gone away with her mother and refers to Duke as "another young rough." It would seem that these two "young roughs" are connected in Mary's mind.

47. (1) In the third paragraph, Mary becomes "ashamed of her outburst," and tears begin to run from her eyes. Although the other choices would be valid reasons for crying, the passage does not support any of them.

48. (3) Duke tells Mary at the end of the passage, "I was only funning with you." He means that he was playing a joke on her. There is no evidence to support the other choices.

26. (4) Both Mother and her husband are talkative. The narrator states this in the first paragraph.

27. (5) The narrator says, "You can't get ahead of Mother." This implies that she usually "won" their argument.

28. (2) In the first paragraph, a fault is described as a collision boundary betweeen two moving crustal plates.

29. (4) According to the passage, it is impossible to predict exactly where the next major quake will strike. San Francisco and Los Angeles are at equal risk.

30. (2) Weather conditions are not relevant in determining earthquake danger.

31. (4) Nick was so lonely that even Bill's presence did not help him.

32. (5) The passage is about how upset Nick felt about losing Marjorie. Choice (4) is incorrect because Nick was not yet trying to forget Marjorie.

33. (3) When Bill says "You can't mix oil and water," you can infer that Nick and Marjorie were too different to be able to stay together and that their relationship would not have worked out in the long run.

34. (2) There is a lack of appropriate schooling. This is the best option, based on the last sentence in the first paragraph. Options (1) and (3) are not stated or implied. Options (4) and (5) relate to cost rather than distribution.

35. (2) Increased inequality of income. If the poor can afford even less than before, they are suffering from an even greater burden than before. Option (2) is the opposite of what is suggested. Options (3) and (4) are not related to the increase in prices. Option (5) is not a clear result of the increase in prices.

36. (4) At least 32 percent of Americans are at poverty level. The figure is the result of adding the stated figures for adults and children. Option (1) uses the figure for percent of income, not percent of Americans. Option (3) is incorrect because no income figures are given for the fifths between the poorest and the wealthiest. Option (4) is incorrect because the actual wages are not mentioned. Option (5) uses the figure for percent of income, not percent of Americans.

37. (2) The Garoghlanian family is not greedy. But they are moral, proud, poor, and honest, according to the narrtor.

49. **(3)** Although all of the other choices are probably true, the author's description of the people's activities shows that the day started out as an ordinary one.

50. **(1)** At the end of the passage, the author states that each of the survivors "counts many small items of chance" to explain their survival.

51. **(5)** Since one hundred thousand people were killed by the bomb, it can be concluded that the survivors witnessed a great deal of horror. The other choices are possibilities, but you cannot be certain about any of them.

Business School

Aptitude Test

This study guide acquaints the student with the nature and scope of questions to be found on the Wonderlic Scholastic Exam commonly administered as an entrance exam by some business schools and colleges.

Included in this Study Guide

-Simulated Aptitude Exam and Answer Sheet
-Math Word Problem Exercises
    Ratio/proportion; percents; decimals; fractions; age questions
-Form Perception Problems
-Math & Form Perception Quiz
-Verbal Abilities
    Reasoning or Logic Skills
    Verbal Analogies
    Word Meaning (through roots, prefixes, and suffixes)
    Synonyms and Antonyms
    Visual Discrimination
    Idioms

Not Included Here

- Vocabulary:
  Review Vocabulary study guide in this manual.

Business School Aptitude

Simulated Exam

The following exam replicates the Wonderlic Scholastic Exam and contains 50 questions. Aptitude tests of this nature are typically timed for 12 minutes though the student is not expected to complete the exam, and 16 correct answers is considered passing.

NOTE: The student is to mark answers directly on the test.

Mental Ability Exam

NAME______________________________ DATE____________________
(Please Print)

READ THIS PAGE CAREFULLY. DO EXACTLY AS YOU ARE TOLD. DO NOT TURN OVER THIS PAGE UNTIL YOU ARE INSTRUCTED TO DO SO. PROBLEMS MUST BE WORKED WITHOUT THE AID OF A CALCULATOR OR OTHER PROBLEM-SOLVING DEVICE.

This is a test of problem solving ability. It contains various types of questions. Below is a sample question correctly filled in:

MEND is the opposite of

1. obtain 2. cheer 3. continue 4. exist 5. break.. [5]

The correct answer is "break" (It is helpful to underline the correct word.) The correct word is numbered 5. Then write the figure in the brackets at the end of the line.

Answer the next sample question yourself.

Paper sells for 59 cents per pad. What will 3 pads cost?.. [ ]

The correct answer is $1.77. There is nothing to underline so just place $1.77 in the brackets.

Here is another example:

HERE, HEAR - Do these words have

1. similar 2. contradictory 3. mean neither same nor opposite... [ ]

The correct answer is "mean neither same nor opposite" which is number 3 so all you have to do is place a figure "3" in the brackets at the end of the line.

When all the answers to a question is a letter or a number, put the letter or number in the brackets. All letters should be printed.

The test contains 50 questions. It is unlikely that you will finish all of them, but do your best. After the examiner tells you to begin, you will be given exactly 12 minutes to work as many as you can. Do not go so fast that you make mistakes since you must try to get as many right as possible. The questions become increasingly difficult, so do not skip about. Do not spend too much time on any one problem. The examiner will not answer any questions after the test begins.

Now, lay down your pencil and wait for the examiner to tell you to begin!

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO.

1. Obsolete is the opposite of
   1. absolute 2. curiosity 3. current 4. obvious 5. antique [ ]

2. The first day of the week is
   1. Monday 2. Sunday 3. Saturday 4. Tuesday [ ]

3. Which word below is related to grain as pickles is to jar?
   1. fermentation 2. satin 3. silo 4. vintage 5. cereal [ ]

4. Gus is 11. His oldest brother is twice his age. When Gus is 15, how old will his brother be? [ ]

5. Satisfy, unsatisfactory - Do these words have
   1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

6. In the following set of words, which word is different from the others?
   1. calf 2. kitten 3. cygnet 4. joey 5. dog [ ]

7. Assume that the first 2 statement are true. Is the final statement
   1. true 2. false 3. not certain
   All tussleworts are mammals. No tussleworts like to swim. No mammals like to swim. [ ]

8. Are the meanings of the following sentences:
   I want to catch some Z's. I'll try to catch some rays.
   1. similar 2. contradictory 3. neither similar nor contradictory [ ]

9. Carefree is the opposite of
   1. sophisticated 2. pompous 3. intentional 4. anxious 5. insane [ ]

10. Formal is the opposite of
    1. casual 2. spoken 3. elective 4. seamless 5. shapeless [ ]

11. How many of the five items are exact duplicates of each other? [ ]

Allan, June	Allan, June
Allen, June	Allen, Jane
Allan, Jane	Allan, Jane
Allen, Jane	Allen, Jane
Allan, Jane	Allan, June

12. An airplane takes off from the Harrisburg airport gaining 3000 feet in fifteen seconds. How many feet did it gain per second? [ ]

13. In the following set of words which word is different from the others?
    1. banish 2. excommunicate 3. receive 4. deport 5. exile [ ]

14. Assume that the first 2 statements are true.
    1. true 2. false 3. not certain
    Some trogs like beer. No trogs are buzzards. No buzzards like beer. [ ]

15. Suppose you arranged the following words so that they made a true statement.
Print the last letter in the last word as the answer to this problem.
is blue The table____ [ ]

16. In the following set of words, which word is different from the others.
1. blamelessness 2. fault 3. blame 4. guilt 5. culpability [ ]

17. Agriculture, agenda - Do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

18. Assume that the first 2 statements are true. Is the final statement:
1. true 2. false 3. not certain [ ]
These women are teachers. All teachers are ambidextrous. These women are ambidextrous.

19. Human, inhuman - do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

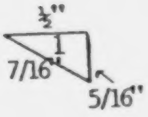
20. The price of a can of soda increased from 45 cents to 55 cents. What was the percent of increase? [ ]

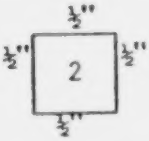
21. Intermediate, intervene - do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

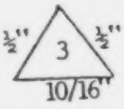
22. Carla drives 350 miles home from school for the weekend. If she drives 200 miles in 2-1/2 hours, how long will it take her to reach home? [ ]

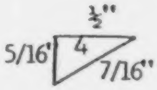
23. Two of the following sayings have similar meanings. Which two are they: [ ]
1. Don't count your chickens before they hatch.
2. He seemed too young to check out.
3. When it rains it pours.
4. After the accident he cashed in his chips.
5. Don't put all your eggs in one basket.

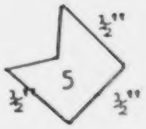
24. Three of the following parts can be fitted together to make a diamond. [ ]
Determine which 3 pieces they are.











25. Autograph, stenographer - Do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

26. How many of the six pairs of items are exact duplicates? [ ]

10235	10235
1023535	1023535
102353523	102352523
102353532	102353532
1032535	1032532
10253235	10253235

27. Which of the following numbers represents the smallest amount:
4 2 .78 .708 .8 [ ]

28. Suppose you arrange the following words so that they made a true statement. Then print the last letter of the last word as the answer to this problem.
punished She severely so the children________________________________ [ ]

29. Fred drove from his home in Los Angeles, CA, a distance of 2000 miles, in 5 day. What was his average daily mileage? [ ]

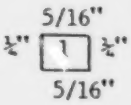
30. Patricidal, suicide - Do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

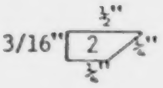
31. If 5 blank video tapes cost $20, how much will 1-1/2 dozen cost? [ ]

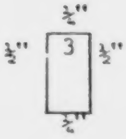
32. In the following set of words, which word is different from the others.
1. flexible 2. elastic 3. pliable 4. rigid 5. supple [ ]

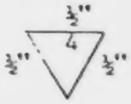
33. Misspell, mismanage - Do these words have
1. similar meanings 2. contradictory 3. mean neither same nor opposite [ ]

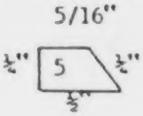
34. Which of the three following parts form a square? [ ]











35. Which is the smallest amount?
7 3 .9 .92 .902 [ ]

36. Occupy is the opposite of
1. buy 2. preoccupy 3. lease 4. administer 5. vacate [ ]

37. Two of the following sayings have similar meanings. Which two are they? [ ]
1. A stitch in time save nine.
2. Many hands make light work.
3. A bird in hand is worth two in the bush.
4. Every dog has his day.
5. His chickens will come home to roost.

38. If Martin accumulates 80 miles on his exercise bike in 4 days, what is his average daily mileage? [ ]

39. If grapefruit can be bought at 4 for a dollar. How much will 79 grapefruit cost? [ ]

40. Assume that the first 2 statements are true. Is the final statement
1. true 2. false 3. not certain [ ]
All 8 year old girls are tomboys. Elizabeth is 8 years old. Elizabeth is a tomboy.

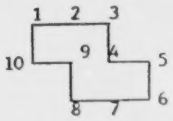
41. If one tablet contains 4-1/2 grains of an antibiotic, how many tablets are needed to make an 18-grain antibiotic dosage? [ ]

42. Which word below is related to clothes as dishes is to break?
1. tear 2. sew 3. buy 4. new 5. wardrobe [ ]

43. Two of the following sayings have similar meanings. Which two are they? [ ]
1. Don't know which end is up.
2. Went to pieces.
3. It's over my head.
4. It's a toss up.
5. Read between the lines.

44. Are the meanings of the following sentences
They went at it with hammer and tongs. The boys fought tooth and nail.
1. similar 2. contradictory 3. neither similar nor contradictory [ ]

45. The following figure can be divided by a straight line and the resulting pieces refitted into a square. What are the numbers connecting this straight line? [ ]



46. Janet saved $675. for Christmas spending. She had to deduct $150. for an unexpected bill. By what percent did her account decrease? [ ]

47. A model car traveled along a ramp 2 feet long in 1-1/2 seconds. How far could it travel at this same speed in 4 seconds? [ ]

48. The clock in the veterinarian's office was on time yesterday at 5:00 P.M. Today, at 8:00 A.M. it is 3 minutes fast. Assuming a constant rate, how many seconds did the clock gain in 1/4 hour. [ ]

49. Mrs. Hodgson picked 60 boxes of strawberries, which she estimates to be worth $90. If 6 boxes will spoil before she can sell them all, what price should she charge for each box in order to gain 1/5 of her estimated cost? [ ]

50. Carl and Ellen bought Christmas tree seedlings for $2000. They resold all of them for $3500 making $3 on each seedling. How many seedlings did they buy? [ ]

Simulated Test Answer Key

1. 3
2. 2
3. 3
4. 26
5. 2
6. 5
7. 2
8. 1
9. 4
10. 1
11. 3
12. 200 ft./sec.
13. 3
14. 3
15. E
16. 1
17. 3
18. 1
19. 2
20. 22% inc.
21. 1
22. 4-3/8 hrs.
23. 2, 4
24. 1, 3, 4
25. 1
26. 4
27. .708
28. Y
29. 400 m/day
30. 1
31. $72
32. 4
33. 1
34. 1, 2, 5
35. 9
36. 5
37. 4.5
38. 20m/day
39. $19.75
40. 1
41. 4 tablets
42. 1
43. 1, 3
44. 1
45. 2, 9 or 4, 7
46. 22% decrease
47. 5 1/3 ft.
48. 3 seconds
49. $2
50. 500 seedlings

Scoring Guide: Count the number of correct answers. Acceptable scores range from 16 and above. Check with the student's particular training program to determine their acceptable score.

Math Exercises

Business School (Aptitude)

The math word problems that follow are not intended as initial instruction in the areas covered. These exercises are intended as a follow up to a general review of basic math including:

Ratio/Proportion
Percents
Decimals
Fractions
Age Questions

Selective Bibliography for Review

Number Power 1 Illinois: Contemporary Books, Inc.	Addition, substraction, multiplication and division of whole numbers
Number Power 2	Fractions, decimals and percents
Number Power 6	Word problems: fractions, decimals and percents
Number Power Review	Whole numbers to algebra

Math Word Problems

Aptitude for Business School

Ratio

Problem

- Twenty women out of a total of thirty-five men and women plan to take the business school entrance examination. What is the ratio of women to men planning to take the exam?

Solution Ratio of women to men.
Ratio 20 to 15.

Answer $\frac{20}{15} = \frac{4}{3} =$ 4 to 3

Problem

- If 4 parts disinfectant are mixed with water to form a 10 parts mixture of disinfectant and water; what is the ratio of disinfectant to water?

Solution 4 parts to (10 - 4) parts =
4 parts to 6 parts = $\frac{4}{6}$ or $\frac{2}{3}$

Answer 2:3

Proportion

Problem

- If 6 oranges cost $1.20, how much will 15 oranges cost?

Solution Another way to express this problem:

$$\frac{\text{6 oranges}}{\text{15 oranges}} = \frac{\$1.20}{X}$$

Multiply on the diagonal without the unknown value (15 x $1.20 = $18.00). Then divide this answer by the remaining value ($18 ÷ 6 = $3.00).

Answer $3.00

-Proportion continued-

Problem

- If 6 oranges cost $1.20, how many oranges can be bought for $3.00?

Solution $\frac{6 \text{ oranges}}{X} = \frac{\$1.20}{\$3.00}$

Again, multiply on the diagonal without the unknown value (6 x $3.00 $18.00). Then divide this answer by the remaining value ($18 ÷ $1.20 = 15).

Answer 15 oranges

Problem

- If a veterinarian hospital treated 8 animals in 2 hours, what was the hourly average of animal treated?

Solution Restate problem: $\frac{8 \text{ animals}}{X} = \frac{2 \text{ hours}}{1 \text{ hour}}$

Multiply on the diagonal without the unknown value (8 x 1 = 8). Then divide this answer by the remaining value (8 ÷ 2 = 4).

Answer 4 animals an hour

Problem

- John and Alice McKay make dog houses. Their materials for one week cost $65. If they made $325 selling their houses, earning $52 profit for each house, how many houses did they sell?

Solution

Total Cost	$65
Total Sales	$325
Profit per House	$52
Total Profit	$325 - $65 = $260

Set up a proportion $\frac{\$52}{\$260} = \frac{1 \text{ house}}{X}$

Solve

$260 x 1 = $260
$260 ÷ $52 = 5

Answer 5 dog houses

-Proportion continued-

Problem

- A greyhound bus traveled from State College to Athens GA, leaving at 7:00 AM Thursday and arriving in Athens on Friday at 1:00 PM. It was 3 hours later than usual. At this rate of speed, how many minutes did the bus lose in 1/4 hour?

Solution Total trip time: 7:00 am Thursday to 1:00 pm Friday = 30 hours
Total time lost: 3 hours or 180 minutes (unit change since problem asks for minutes).

Set up a proportion

$$\frac{180 \text{ minutes}}{X} = \frac{30 \text{ hours}}{1 \text{ hour}}$$

Solve 180 minutes x 1 = 180
180 ÷ 30 = 6 minutes

Since the problem asks for minutes lost in 1/4 hour, simply multiply 6 by 1/4 : $\frac{6}{1} \times \frac{1}{4} = \frac{3}{2}$ or $1\frac{1}{2}$ minutes.

Answer 1 1/2 minutes

Problem

- Tony bought a 25 lb. case of grapefruit for $19.60. If 1/2 lb. spoil before they are sold, what should he charge per lb. in order to gain 1/2 of the total cost?

Solution 25 pounds - 1/2 pound (spoiled) = 24 1/2 pounds
A 'gain of 1/2 of total cost' means a sale price of 'cost + 1/2 of cost'.

$19.60 + 1/2 of $19.60 = $19.60 + $9.80 = $29.40

Set up a proportion

$$\frac{24\ 1/2 \text{ lb.}}{1 \text{ lb}} = \frac{\$29.40}{X}$$

Solve $29.40 x 1 = $29.40
$29.40 ÷ 24 1/2 (Turn fraction into decimal 24.5)

$$24.5\ \overline{)29.40} \quad \text{becomes} \quad 245\ \overset{1.20}{\overline{)294.00}}$$

Answer $1.20 per pound

Fractions

Problem
•One of the heating ovens in the hospital kitchen is 6 feet high. The kitchen ceiling is 13 feet high. What fraction of the height of the kitchen is the height of the oven?

Solution
The oven occupies 6 of the 13 feet. Thus we have 6 parts out of a whole of 13 parts.

Answer 6/13

Problem
•One-tenth of our 200 patients have colds. How many patients have colds?

Solution Multiply to find a fractional part of a whole.

$\frac{1}{10} \times 200$ so $\frac{1}{10} \times \frac{200}{1} = 20$

Answer 20

Problem
•Mrs. Hodgson picked 60 boxes of strawberries. When she went to sell them the next morning, she found one of every 12 boxes too ripe for sale. How many boxes could she sell?

Solution Multiply to find a fractional part of a whole.

$60 \times \frac{1}{12}$ so $\frac{60}{1} \times \frac{1}{12} = 5$

Since 5 boxes were too ripe for sale, these are subtracted from the total: 60 - 5 = 55

Answer 55 boxes

Problem
•Ann can make 9 beds in twenty minutes. Mark can make 2/3 as many during that time. Carla can make 4/5 of the total number of beds that Ann and Mark can make. How many beds can Carla make in 20 minutes?

Solution

Ann: 9 beds in 20 minutes

Mark: $9 \times \frac{2}{3}$ so $\frac{9}{1} \times \frac{2}{3} =$ 6 beds in 20 minutes

Carla: 9 (Ann) + 6 (Mark) = 15

$15 \times \frac{4}{5}$ so $\frac{15}{1} \times \frac{4}{5} =$ 12 beds

Answer 12 beds

Percents

Problem

- If the sale price of a business textbook is increased from $25 to $30, what is the percent increase in the sale price of the book?

-Percents continued-

Solution Place the amount of the increase, $5, over the original price, $25: 5/25 and reduce 1/5

Turn the fraction 1/5 into a decimal by dividing the denominator into the numerator:

$$\begin{array}{r} .20 \\ 5\,\overline{)1.00} \end{array}$$

Change the decimal to a percent by moving decimal two place to the right: 20%

Answer 20%

Problem

- If the sale price of a used business textbook is decreased from $25 to $18, what is the percent decrease in the sale price of the book?

Solution Place the amount of the decrease, $7, over the original price of the book, $25: 7/25 (cannot be reduced).

Turn the fraction 7/25 into a decimal by dividing the denominator into the numerator:

$$\begin{array}{r} .28 \\ 25\,\overline{)7.00} \end{array}$$

Change the decimal to a percent by moving the decimal two places to he right: 28%.

Answer 28%

Decimals

Problem

- Which has the smallest value: .07; .093; .2; .28?

Solution Vertically align all numbers by their decimal point. Then fill in zeros so that each has the same number of digits. Look at each as a whole number and select the smallest.

.070
.093
.200
.280

Answer .07

Problem

- Which is the smallest amount: 78%; 3/4; 1; 7; .704?

Solution: Immediately exclude whole numbers 1 and 7.
Then convert percents and fractions to decimals.

78% = .78
3/4 = .75

Align these remaining numbers by decimal point (remember to add zeros so each number has the same number of digits:

.780
.750
.704 -- smallest

Answer .704

Age Questions

Problem

- Alicia is 20 years old. Her father is three times as old. In four years, how old will the father be?

Solution
Alice = 20
Father = 20 X 3 = 60
Father's age in 4 years = 60 + 4 = 64

Answer 64

Problem

- In three years Ben will be 9. His mom is now five times as old as Ben. How old will Ben's mom be in three years.

Solution
Ben = 6
Ben's mom = 5 x 6 = 30
Ben's mom (in 3 years) = 30 + 3 = 33

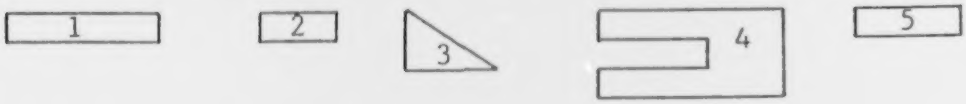
Answer 33

Form Perception Exercises

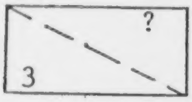
Included in the aptitude-type test for business school are questions that measure the student's spatial skills. From a selection of geometric shapes, the student is asked to choose those that when combined will produce a particular form. Following are methods for learning this skill. Additionally, a quiz is provided to test the students skills with both form perception and math.

Form Perception

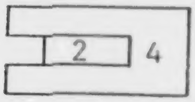
1. Which 3 parts can be made to form a rectangle?



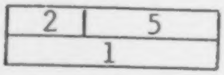
Visualize a rectangle and fit combinations of 3 parts into it until you discover a winning combination.



(a)



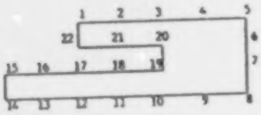
(b)



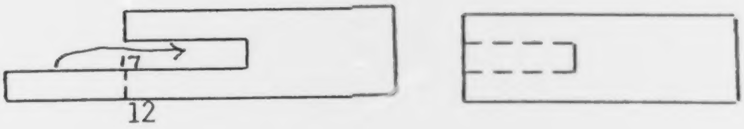
(c)

Thus, answer (c) is correct.

2. Make a square by dividing the figure below into 2 parts by a straight line and reassembling the parts. Draw such a line by joining 2 of the numbers. Write down the 2 numbers.


1
2
3
4
5
22
21
20
6
15
16
17
18
19
7
14
13
12
11
10
9
8

Solution

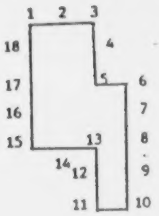


Answer: 12, 17

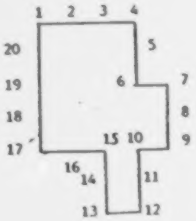
Such visual manipulation requires practice. Work the following three problems. Check your answers with the answers with the answer key that follows:

3. Repeat the instructions of #1 using the following figures.

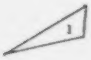
a.

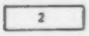

1
2
3
18
4
17
5
6
16
7
15
13
8
14
12
9
11
10

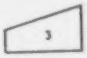
b.

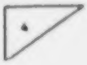

1
2
3
4
20
5
19
6
7
18
8
17
15
10
9
16
14
11
13
12

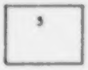
c. Determine which 3 parts can be fitted together to form a square.



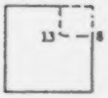




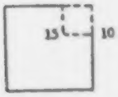




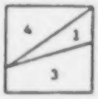
Solution



a.



b.



c.

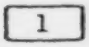
Math & Perception Quiz

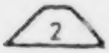
1. Which is the smallest amount.

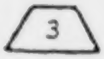
   3 1 1.07 .88 .89

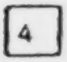
2. Soda is on sale at 3 cans for $1. How much will 2 dozen cost?

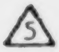
3. Two of the following shapes make a triangle, which are they?



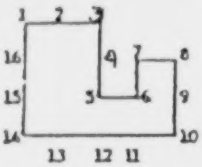








4. This geometric figure can be divided by a straight line into 2 parts which can be fitted together into a square. Draw a line by joining 2 of the numbers. Write the numbers as your answer.



5. If 5 sq. ft. of carpeting costs $27, how much does the carpeting cost per square foot?

6. If you have $135, how much of the carpeting in Problem 5 could you buy?

7. Between 9:00 AM yesterday and 5:00 PM today, a water storage tank leaked 16 gallons of water. Assuming a constant rate, how many gallons of water were lost each $\frac{1}{2}$ hour?

8. A cup of Pal dog food provides 1/5 of the protein that a puppy needs in a day. If the puppy needs 30 grams of protein in a day, how many grams of protein does a daily feeding of 3 cups of Pal supply?

9. If the price of an animal harness is increased from $5 to $6, what is the percent increase in cost?

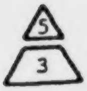
10. Mrs. McCarthy bought 3 quarts of milk. This was exactly enough to give each of her cats $\frac{1}{2}$ pint of milk. How many cats does Mrs. McCarthy have?

Solution Key

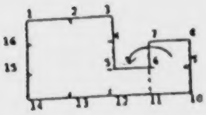
1. .88

2. $8

3. 3, 5



4. 6, 11



5. $5.40

6. 25 sq. ft.

7. $\frac{1}{4}$ gal. or .25 gal.

8. 18 grams

9. 20% increase

10. 12 cats

Verbal Abilities

The aptitude-type test for business school contains a variety of questions intended to measure the students overall verbal skills. Included are questions on

- reasoning
- verbal analogies
- word meaning (specific to roots, prefixes and suffixes)
- synonyms/antonyms
- visual discrimination
- and idioms

Explanations and examples for each type of verbal skill follows. For additonal study, the student can also review the Vocabulary study guide in this manual.

Selective Bibliography

A good source for further review (see Unit 1)

Nursing School Entrance Examination, 1994. New York: Macmillan

Verbal Abilities

Questions on Reasoning

On an aptitude test you may be required to analyze the reasoning of small arguments made up of three sentences.

To determine whether such an argument is correct or faulty, you must first accept as true whatever is stated in the first two sentences. Then on the basis of these two sentences, you can determine whether the argument is correct or faulty.

For example,

All tall men are stingy. Tom is a tall man. Tom is stingy.

This is a correct or valid argument.

Of course, we know that in the real world, all tall men are not stingy. However, you are not to dispute the truth of the first two sentences known as the premises. You are being tested on your ability to analyze the conclusion (the third sentence) when given two premises. Think of these arguments as formulas, just as in math, but with words instead of numbers.

Read the following sentences. Write C if the conclusion is correct. Write F next to the sentences where the conclusion is faulty.

_____ 1. It never rains unless it's cloudy. There are some clouds in the sky. It must be about to rain.

Answer: F. "Some clouds" does not mean that it is cloudy. Also, "it never rains unless it's cloudy" does not mean that if it is cloudy it must rain.

_____ 2. Only women are allowed in the health club. Susan is a woman. Susan is allowed in club.

Answer: C.

_____ 3. The book "Treasure Island" is boring. This book is boring. Therefore, this book must be "Treasure Island".

Answer: F. All boring books are not "Treasure Island".

_____ 4. If a person goes to college, he'll/she'll achieve financial security in later life. I'm going to college. Therefore, I'll achieve financial security in later life.

Answer: C.

BEST COPY AVAILABLE

Verbal Analogies

Determine the relationship between the first two words. Next, find the same relationships among the choices which follow the first two words. Below is a list of fifteen different kinds of relationships and an example for reach. Try to choose the correct answer for each and then check your answers with the answer key that follows this section.

Kinds of Relationship

In analogy questions, the relationship between the first two words may be one of several kinds. Following are relationship possibilities.

1. Purpose Relationship
GLOVE : BALL
(A) hook : fish (B) winter : weather
(C) game : pendant (D) stadium : seats

2. Cause and Effect Relationship
RACE : FATIGUE
(A) track : athlete (B) ant : bug
(C) fast : hunger (D) walking : running

3. Part : Whole Relationship
SNAKE : REPTILE
(A) patch : thread (B) removal : snow
(C) struggle : wrestle (D) hand : clock

4. Part : Part Relationship
GILL : FIN
(A) tube : antenna (B) instrument : violin
(C) sea : fish (D) salad : supper

5. Action to Object Relationship
KICK : FOOTBALL
(A) kill : bomb (B) break : pieces
(C) question : team (D) smoke : pipe

6. Object to Action Relationship
STEAK : BROIL
(A) bread : bake (B) food : sell
(C) wine : pour (D) sugar : spill

7. Synonym Relationship
ENORMOUS : HUGE
(A) rogue : rock (B) muddy : unclear
(C) purse : kitchen (D) black : white

8. Antonym Relationship
PURITY : EVIL
(A) suavity : bluntness (B) north : climate
(C) angel : horns (D) boldness : victory

9. Place Relationship
MIAMI : FLORIDA
(A) Chicago : United States (B) New York : Albany
(B) United States : Chicago (D) Albany : New York

10. Degree Relationship
WARM : HOT (A) glue : paste (B) climate : weather
(C) fried egg : boiled (D) bright : genius

11. Characteristic Relationship
IGNORANCE : POVERTY (A) blood : wound (B) money : dollar
(C) schools : elevators (D) education : stupidity

12. Sequence Relationship
SPRING : SUMMER (A) Thursday : Wednesday (B) Wednesday : Monday
(C) Monday : Sunday (D) Wednesday : Thursday

13. Grammatical Relationship
RESTORE : CLIMB (A) segregation : seem (B) into: nymph
(C) tearoom : although (D) overpower : seethe

14. Numerical Relationship
4 : 12 (A) 10 : 16 (B) 9 : 27
(C) 3 : 4 (D) 12 : 6

15. Association Relationship
DEVIL : WRONG (A) color : sidewalk (B) slipper : state
(C) ink : writing (D) picture : bed

Answers: 1. A; 2. C; 3. D; 4. A; 5. D; 6. A; 7. B; 8. A; 9. D; 10. D; 11. A; 12. D; 13. D; 14. B; 15. C.

Note 1: In many analogy questions, the incorrect choices may relate in some way to the first two words. Don't let this association mislead you. For example, in Number 4 above (PART ; PART RELATIONSHIP example), the correct answer is (A) tube : antenna. The choice (C) sea : fish is incorrect, although these two latter words are associated in a general sense with the first two words (gill : fin).

Note 2: Very often, the relationship of the first two words may apply to more than one of the choices given. In such a case, you must "narrow down" the initial relationship in order to get the correct choice. For example, in Number 6 above (OBJECT : ACTION RELATIONSHIP), a STEAK is something that you BROIL. Now let us consider the choices: BREAD is something that you BAKE; FOOD is something that you SELL; WINE is something that you POUR; and SUGAR is something you can (can) SPILL. Thus far, each choice seems correct. Let us now "narrow down" the relationship: a STEAK is something that you BROIL with heat. The only choice that fulfills this complete relationship is (A) BREAD - something that you BAKE with heat. It follows that (A) is the correct choice.

Word Meaning

Identifying roots, prefixes and suffixes.

Look at the question below.

1. Automobile, Mobility - do these words have

(a) similar meanings (b) contradictory (c) mean neither same nor opposite

Perhaps you've chosen (c) *mean neither same nor opposite*. After all, an *automobile* is a car and *mobility* means having movement or being able to move. But if you selected (c), you would be incorrect, at least when answering a word meaning question on an aptitude test. The reason: The intent of the question is to test your knowledge of roots, prefixes or suffixes, those parts of a word's structure that make up its meaning.

Therefore, (a) would be the correct answer - *automobile* and *mobility* have similar meaning since *mob* is the root of both these words. *Mob* means to move. Both words have motion implied in their meaning.

2. Exhale, Extra - do these words have

(a) similar meanings (b) contradictory (c) mean neither same nor opposite

Ex in exhale is the prefix meaning *out of.*

Extra is a prefix of its own meaning *beyond.*

In this instance these words mean neither the same nor are they opposite. The corre answer is c

Roots

Many words in our English language are derived from Latin, or Greek. Root words are considered the main part of a word. They combine with each other or other parts (prefixes or suffixes) to form new words.

Roots or Bases or Stems	Meaning	Example
dent	tooth	dental
rupt	break	disruption
hydro	water	hydrophobia

Below is a list of some commonly used roots.

Root	Meaning	Example
ag, act, ig	act, do	agent
am	love	amorous
bio	life	biology
cise	cut	concise
crat	rule, strength	democratic
cred	believe	credible
cur	run	concur

duct	lead	conduct
equi	equal	equilibrium
fer	bear, carry	fertile
fin	end	finish
geo	earth	geography
gest	carry, bear	digest
hab	live	inhabit
licit	permit	elicit
man	hand	manual
multi	many	multiply
put	think	computer
sent	feel	consent
solu	loosen	solution
temp	time	temporary
vis	see	visual

Refer to the above list or use your dictionary to complete the exercise below. Choose either (a) or (b) to finish the definition.

1. To be full of tender feeling is to be — 1. ______________
a. sentimental b. absent.

2. That which can be dissolved is — 2. ______________
a. resolute b. soluble

3. Something that can be seen is — 3. ______________
a. vendor b. visible

4. A recount of one's own life story is a (an) — 4. ______________
a. autobiography b. biopsy

5. To occur again is to — 5. ______________
a. recur b. recruit

Answers: 1. A; 2. B; 3. B; 4. A; 5. A

The words in each line share a common root. Write the root and its meaning in the blank.

1. Sympathy, apathetic ______________
2. Equivocal, equate ______________
3. Stenographer, autograph ______________
4. Scripture, inscribe ______________
5. Induce, educate ______________

nswers: 1. path-feeling; 2. equi-lead; 3. graph-write; 4. scrip-scribe; 5. duc-lead

Prefixes

Prefixes are groups of letters added to the beginning of a root. It is an addition at the front of the word that adds meaning to the word.

Prefix	Meaning	Example
ab, a	from	absent
com, con	with, together	converge
auto	self	automatic
semi	half	semicircle

Here is a list of some common prefixes.

Prefix	Meaning	Example
anti	against	antidote
circum	around	circumference
contra	against	contradict
de	from, down, away	detract
e, ex	out, out of, from	exit
fore	before, in front of	forehead
in, intra, intro	into	intramural
post	after	posthumous
pro	forward	profound
re, retro	back, again	rescind
se	apart	segregate
tra, trans	across	transportation
un	not	undone

Use the list above or your dictionary to complete the exercise below. choose either (a) or (b) to finish the definition.

1. Something that can be used up is
   a. expendable b. explanation
   1. ________________
2. To choose from an assortment is to make a
   a. sensation b. selection
   2. ________________
3. To translate from secret writing or code is to
   a. decipher b. dedicate
   3. ________________
4. To lack control of is to be
   a. understood b. undisciplined
   4. ________________
5. To go around is to
   a. circumflex b. circumvent
   5. ________________

Answers: 1. A; 2. B; 3. A; 4. B; 5. B

The words in each line share a common prefix. Write the prefix and its meaning in the blank.

1. reconcile, revoke ______________________________
2. exhale, exile ______________________________
3. mislead, misled ______________________________
4. unisex, unity ______________________________
5. preview, preceded ______________________________

Answers: 1. re-back, again; 2. ex - out, out of; 3. mis - incorrect; 4. uni - one; 5. pre - before.

Suffixes

Suffixes are groups of letters added to the end of a root. It is an addition at the end of the word that adds meaning to the world.

To Form Nouns:

Suffix	Meaning	Example
1. acy, cy, ance, ary	state or	accuracy, transference
2. ence, ity, ty, ness	quality of being	poverty, greatness
3. ice	act, quality	service, justice

To Form Adjectives:

1. able, ible	able to	agreeable
2. ful, eous, ious, ous, ose	full of	bountiful, plenteous, generous, verbose

To Form Verbs:

1. fy	make, form into	liquify
2. en	make	hearken

To Form Adverbs:

1. ly	in the manner of	angrily
2. er	more in degree	happier

Here is a list of common suffixes.

Nouns:

Suffix	Meaning	Example
ant, ent, ier, er eer, ist, or, tor sor, ee	one who	servant
ure	act, being quality	womanhood
tude	state of being	gratitude

Adjectives:

al, ary, ery, ory	pertaining to	manual
ic, icle, ine		
il, ile	pertaining to	juvenile

Verbs:

ate	make, form into	segregate
ize	make, do	emphasize

Adverbs:

est	most - in degree	fastest
most	highest - in degree	utmost

Practice forming nouns by adding the correct suffix to each word. You may need to slightly change the spelling in some words before you add the ending.

1. revise ______________________
2. account ______________________
3. close ______________________
4. multiply ______________________
5. cash ______________________

Answers: 1. revised; 2. accountant; 3. closure; 4. multitude; 5. cashier

Use the proper suffix to change each word to a verb.

1. to make something sterile ______________________
2. to use a hyphen ______________________

Answers: 1. sterilize; 2. hyphenate

Add the proper suffix to change each word into an adjective.

1. hate: a ____________ look
2. honor: an ____________ degree
3. nature: a ____________ setting

Answers: 1. hateful; 2. honorary; 3. natural

TRY SOME ON YOUR OWN!

1. graduate, gradual - do these words have
(a) similar meanings (b) contradictory (c) mean neither same nor opposite

2. encourage, discourage - do these words have
(a) similar meanings (b) contradictory (c) mean neither same nor opposite

3. decadent, decade - do these words have
(a) similar meanings (b) contradictory (c) mean neither same nor opposite

4. legal, illegal - do these words have
(a) similar meanings (b) contradictory (c) mean neither same nor opposite

5. dormant, dormitory - do these words have
(a) similar meanings (b) contradictory (c) mean neither same nor opposite

Synonyms and Antonyms

Synonyms are words that have the same or nearly the same meaning.

Example: disappear, vanish; insane, crazy

Antonyms are words that mean approximately the opposite of another word.

Example: hot, cold stingy, generous

You may encounter synonym and antonym questions on a general aptitude test. The following exercises will give you practice working with synonyms and antonyms.

Use a dictionary and/or thesaurus to help you complete the exercise.

Synonyms

Use the dictionary to find a synonym for each of the following words.

1. alacrity
2. deride
3. blithe
4. precursory
5. docile
6. hackneyed
7. tangible
8. premonition
9. candidly
10. sporadic

Antonyms

1. egotism
2. pompously
3. agility
4. placated
5. acumen
6. abashed
7. radical
8. antidote
9. fertile
10. refute

Visual Discrimination

You may find some of these type questions on a general aptitude test. You will be looking for similarities and differences in words and/or numbers.

Look at the samples below. Compare the names and/or numbers that are exactly the same. Work quickly.

1. a. Jane McPherson Allen
   b. Jane McPherson Allan
   c. Jane McPhersan Allen
   d. Jane McPherson Allen
2. a. 3449212
   b. 3449112
   c. 3449212
   d. 3449292

Answers: 1. a & d; 2. a & c

Idioms

An idiom is a phrase or expression whose meaning cannot be understood from the ordinary meanings of the words in it. For example, "give in" is an English idiom meaning "yield". A large group of idioms are well established sayings and proverbs. For example: "Birds of a feather flock together" means people who are alike often become friends or are together.

You may encounter some questions concerning idioms on a general aptitude test. Here are a few for you to try.

Look at the following list of idioms. Try to determine their meanings. If you don't know their meanings, ask friends or family.

1. The grass is always greener on the other side of the fence.
2. Cross a bridge before you come to it.
3. Hit the nail on the head.

4. Jump out of the frying pan into the fire.
5. Cut off one's nose to spite one's face.
6. Every cloud has a silver lining.
7. Lock the barn door after the horse is stolen.
8. Cast pearls before swine.
9. Kill the goose that laid the golden egg.
10. People who live in glass houses should not throw stones.

PSB

Aptitude for Practical Nursing

This study guide acquaints the student with the nature and scope of questions to be found on the PSB--the Aptitude for Practical Nursing Exam administered to nursing student applicants.

Included in this Study Guide

- -Sample PSB Exam
- -Simultated Exam, Answer Sheets, and Scoring Guide
- -Math Word Problem Exercises
  - Ratio/proportion; fractions; percents; decimals; measurement, squares and square roots; powers and roots; area; algebra
- -Geometric Relationships
- -Vocabulary Pre-test
- -Spelling Pre-test (medical terminology) and Medical Word List
- -Anatomy Packet
- -Judgement and Comprehension in Practical Nursing Situations

Not Included Here

- Vocabulary: review entire section
- Spelling: review entire section

Important Note: Not included in Project Tune-Up yet an integral part of this study program is the 353 Special Project (#98-2030) Science Study Guide by Alice Mackin. Material on natural sciences covered in Ms. Mackin's 353 are crucial to your students' preparation for the PSB. Some questions appearing on the simulated test are taken from the Science Study Guide. To obtain a copy contact AdvancE at 1-800-992-2283.

PSB - Aptitude for Practical Nursing Examination - Revised

ACADEMIC APTITUDE - Part I

DIRECTIONS: Part I measures how well you think and learn. The three sample exercises, demonstrating the three type of questions you will be expected to answer in this part of the Examination, are given below so that yo may see how to do Part I of the Examination.

Sample

Sample 1. (A) Bad (B) Evil (C) Wicked (D) Good (E) Naughty

1. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

In the above "set" of words, which word is most different in meaning from that of the other words? GOOD is the correct answer. What is the letter in front of the word GOOD? The letter is D. The circle with the letter D in the center should be blackened in the answer row for sample question 1.

1. Ⓐ Ⓑ Ⓒ ● Ⓔ

REMEMBER that in the "sets" of words that follow in this part of the Examination, you are always to select the word that is most DIFFERENT in meaning.

Sample 2. You have $10 and give $3 to your mother. How much money do you have remaining?
(A) $1 (B) $2 (C) $4 (D) $5 (E) $7

2. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Ten dollars minus three dollars is seven, so the circle with the letter E in the middle should be blackened in the answer row for sample question 2.

2. Ⓐ Ⓑ Ⓒ Ⓓ ●

Sample 3. ○ is to ○ as □ is to
(A) △ (B) □ (C) ▭ (D) ○ (E) ▯

3. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

The letter B, □ , is the correct answer

A large circle ○ is to a smaller circle ○

as a large square □ is to a smaller square □

You should blacken the circle with the letter B in the middle in the answer row for sample question 3.

3. Ⓐ ● Ⓒ Ⓓ Ⓔ

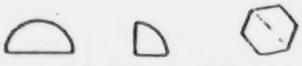
---

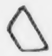
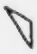
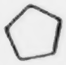
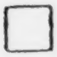
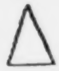
1. (A) Augment (B) Decrease (C) Diminish (D) Lessen (E) Reduce

1 Ⓐ Ⓑ Ⓒ Ⓓ

2. What is the remainder when .063 is subtracted from three?
(A) 2.937 (B) 2.739 (C) 2.379 (D) .2739 (E) .0297

2 Ⓐ Ⓑ Ⓒ Ⓓ

3.

is to as is to -

A

B

C

D

E


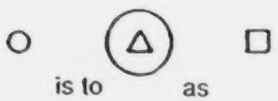
3 Ⓐ Ⓑ Ⓒ Ⓓ

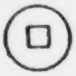
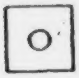
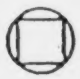
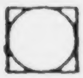
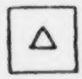
4. (A) Extract (B) Instill (C) Deduce (D) Elicit (E) Extort

4 Ⓐ Ⓑ Ⓒ Ⓓ

5. What is the cost of a $30 item after successive discounts of 10 percent and 20 percent?
(A) $27.00 (B) $25.50 (C) $24.75 (D) $23.40 (E) $21.60

5 Ⓐ Ⓑ Ⓒ Ⓓ

6.

is to as is to -

A

B

C

D

E


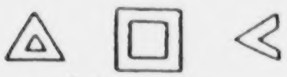
6 Ⓐ Ⓑ Ⓒ Ⓓ

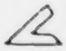
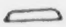
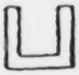
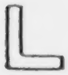
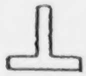
7. (A) Turmoil (B) Tranquil (C) Serene (D) Quiet (E) Peaceful

7 Ⓐ Ⓑ Ⓒ Ⓓ

8. The first minute of a telephone call costs .37 and each additional minute .22. What is the cost of a six minute call?
(A) $1.10 (B) $1.32 (C) $1.47 - (D) $1.62 (E) $1.84

8 Ⓐ Ⓑ Ⓒ Ⓓ

9.

is to as is to -

A

B

C

D

E


9 Ⓐ Ⓑ Ⓒ Ⓓ

Go on to next pa

SPELLING - Part II

DIRECTIONS:

Part II measures how well you can spell and what you know about the various rules of grammar as they are reflected in the spelling of certain words. Each line below contains a word with three different spellings. Only one spelling is correct. Select the correctly spelled word from each line.

Sample 1. (A) acheive (B) achieve (C) achive

1. Ⓐ Ⓑ Ⓒ

What is the letter in front of the word spelled correctly? The answer is the letter B. ACHIEVE. In the answer row to the right, the circle with the letter B in the center has been blackened. You will mark your answers in a similar fashion.

1. Ⓐ ● Ⓒ

1. (A) tharapeutic (B) tharaputic (C) therapeutic
2. (A) inmunity (B) immunity (C) inmumity
3. (A) psysiologic (B) physiologic (C) phsiologic
4. (A) molecules (B) molleculs (C) mollecules
5. (A) hemorrhage (B) hemorhage (C) hemmorhage
6. (A) disinfectant (B) disenfectant (C) disenfectent
7. (A) enzymes (B) enzimes (C) enzymines
8. (A) antispesis (B) antisepsis (C) antisepses
9. (A) poisoneus (B) poiseneus (C) poisonous
10. (A) circulatary (B) circuletary (C) circulatory

1 Ⓐ Ⓑ Ⓒ 6 Ⓐ Ⓑ Ⓒ
2 Ⓐ Ⓑ Ⓒ 7 Ⓐ Ⓑ Ⓒ
3 Ⓐ Ⓑ Ⓒ 8 Ⓐ Ⓑ Ⓒ
4 Ⓐ Ⓑ Ⓒ 9 Ⓐ Ⓑ Ⓒ
5 Ⓐ Ⓑ Ⓒ 10 Ⓐ Ⓑ Ⓒ

INFORMATION IN THE NATURAL SCIENCES - Part III

DIRECTIONS:

Part III is concerned with measuring your accumulated knowledge or information in the area of the natural sciences. Below is a sample exercise to show you how to do this part of the Examination.

Sample 1. Discoveries in the operation of the force of gravity were made by
(A) Lamarek (B) Fields (C) Wells (D) Newton (E) Bonet

1. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

The answer is Newton. In the answer row of circles to the right, the circle with a D in the center has been blackened. Do the following items in the same manner.

1. Ⓐ Ⓑ Ⓒ ● Ⓔ

1. The supporting and structural substance of plants is provided by
(A) fructose (B) comatose (C) lactose (D) cellulose (E) foloise
2. One 1.0567 U.S. liquid quarts is equivalent to one
(A) milliliter (B) kilometer (C) millimeter (D) liter (E) meter
3. An acidic solution will turn blue litmus paper
(A) rusty (B) white (C) blackish (D) yellow (E) red
4. Water boils at how many degrees on the Celsius temperature scale?
(A) 212 (B) 100 (C) 64 (D) 32 (E) 16
5. Of the following scientists, the one who was awarded a Nobel Prize was
(A) Darwin (B) DeVries (C) McClintock (D) Muller (E) Bacon
6. A gland producing the hormone insulin which controls the blood sugar level
(A) pancreas (B) liver (C) pituitary (D) thyroid (E) adrenal
7. Alcohol solutions are called
(A) acetyls (B) tinctures (C) glycoyls (D) coagulates (E) thiols
8. The study of the heart is called
(A) cardiology (B) proctology (C) oncology (D) neurology (E) cytology
9. The nutrient that yields the most energy per ounce is
(A) fat (B) protein (C) starch (D) sugar (E) milk
10. An organism in its early stage of development?
(A) enzyme (B) embryo (C) endoderm (D) estrogen (E) element

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Go on to next p

JUDGEMENT AND COMPREHENSION IN PRACTICAL NURSING SITUATIONS - Part IV

DIRECTIONS:

In Part IV there are a number of questions about the working relationships of the practical/vocational nurse. Be sure you read carefully, so as to comprehend and understand, the description of the work situation and the questions that follow. Each work situation is followed by four possible answers to the problem it presents. You are to select the one answer which, in your judgment, is the best of the four. It may be that you will not agree completely with any of the answers offered, or more than one answer may appear to you to be correct. However, you are to select the one answer which you consider the best. When you have selected your answer, look at the letter in front of it. Blacken the circle with that letter in the middle in the correct row for the number of the question or work situation.

Sample 1. Practical nurses, in selling their services to a hospital, will serve best their interests by emphasizing the saving of which of the following?

(A) waste
(B) time
(C) money
(D) skilled services

1. Ⓐ Ⓑ Ⓒ Ⓓ

The best answer is probably skilled services, for the practical nurse can work jointly with registered nurses and physicians in providing skilled services to hospital patients. The letter in front of skilled services is D. In the answer row to the right, the circle with the letter D in the middle is blackened. Do the following items . . . work situations questions is the same manner.

1. Ⓐ Ⓑ Ⓒ ●

1. A very sick patient is allowed only one visitor in the room at any one time. An entire family of five crowd into the room. When the practical nurse requests that they obey hospital rules, they refuse to leave the room. The practical nurse should:

(A) demand that four of the five leave.
(B) call for a security officer.
(C) tell the patient to ask them to leave.
(D) ask the supervisor for instructions.

2. A recently graduated practical nurse, newly employed by the hospital, is assigned to your Unit. This practical nurse seems, to you, too quick to tell you what to do and how to do it. You might best handle this situation by:

(A) exercising patience and tolerance.
(B) asking for a transfer.
(C) threatening to resign.
(D) complaining to your supervisor.

3. A patient's visitor becomes very improper in their behavior toward you. The best thing to do is to:

(A) "tell them off."
(B) call your supervisor.
(C) ignore the visitor.
(D) "play along" with the visitor.

4. The oxygen tube has just been removed from the patient's nostrils. The patient asks you for a cigarette. The best response to the patient is to:

(A) ignore the patient.
(B) explain the fire hazard.
(C) say you don't smoke.
(D) say "I will get you a cigarette."

5. The practical nurse's patient is HIV positive. The patient expresses concern about possible staff hostility. The practical nurse might best ease the patient's anxiety by:

(A) mildly scolding the patient.
(B) saying "You don't belong here."
(C) saying "Don't worry, I will avoid close contact with you."
(D) stating "We are all here to help."

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ
5 Ⓐ Ⓑ Ⓒ Ⓓ

BEST COPY AVAILABLE

Go on to next pa

VOCATIONAL ADJUSTMENT INDEX - Part V

DIRECTIONS:

In Part V there are statements that concern how you feel about yourself and certain situations in relation to a potential work environment. This is not a test, but rather an inventory of your feelings, attitudes, and opinions which is designed to assist in placing you in a work situation where you will find satisfaction and be happy. There are probably no "right" answers nor "wrong" answers - some people feel one way; other people feel another way. Agreement or disagreement with the statements that follow will simply show what you usually think, how you usually feel, or what you usually do about things.

If you agree with the statement, blacken the circle with the letter A in the center Ⓐ in the correct row. If you disagree, blacken the circle with the letter D in the center Ⓓ .

WORK RAPIDLY - Just select the answer that is really true for you and answer immediately.

1. A definite choice of a vocation is important.
2. Unemployment after graduation is a source of anxiety.
3. Working with sick people should be very rewarding.
4. It is difficult to relate to people in authority.
5. Most employers care little about their employees.
6. It is easy to talk with one's teachers.
7. Friends are an important part of happiness.
8. Most people enjoy good health.
9. To help the less fortunate is a worthwhile goal.
10. To speak-up in class discussions is quite easy.
11. High-stress vocations are often the most satisfying.
12. It is worthwhile to plan ahead for the future.

1 Ⓐ Ⓓ
2 Ⓐ Ⓓ
3 Ⓐ Ⓓ
4 Ⓐ Ⓓ
5 Ⓐ Ⓓ
6 Ⓐ Ⓓ
7 Ⓐ Ⓓ
8 Ⓐ Ⓓ
9 Ⓐ Ⓓ
10 Ⓐ Ⓓ
11 Ⓐ Ⓓ
12 Ⓐ Ⓓ

WHY specimen questions? Questions which will NOT be found in the Examination. The purpose of the specimen question is to familiarize you with; (1) the format of the Examination; (2) the directions you will be given for completing each part of th Examination; (3) the type of questions to which you will be asked to respond; (4) the content areas measured by the test items e.g., word-meaning, arithmetic, spelling, judgment, science, etc.; (5) how to record your answers on the answer sheet. Don't b too concerned if you do not immediately know the answers to the specimen questions. YOUR important reaction is to b concerned enough to do some review study using various, readily available, sources of answer information such as GE books (very useful), the dictionary, 8th grade arithmetic textbooks, high school science textbooks, etc. You could have bee supplied with the answers to the specimen questions, but that would defeat one of the real values, for YOU, of the specime questions . . . study (finding out), learning (understanding), review (acquiring knowledge -- reinforcing learned material).

TEST-TAKING "TIPS"

1. Listen very carefully to the oral directions which are given to you.
2. Read the "General Instructions" carefully and follow them.
3. Be aware of the time allotted for each of the five parts of the Examination.
4. While the test questions are arranged in order of difficulty, you may find some earlier questions more difficult for you than some later ones. Do not waste time puzzling over a difficult question.
5. Indiscriminate guessing does not "pay off". An "educated", reasoned guess may be worthwhile.
6. If you change an answer to a question, be sure the change is justified.
7. Lack of adequate rest "the night before" will affect test-taking efficiency.
8. Try to relax - too much worry and anxiety is not helpful - have a positive attitude.
9. Take care of personal needs prior to the test-taking time.
10. REPORT illness, excessive fatigue, and other handicapping conditions or disabilities.

Aptitude for Practical Nursing
Simulated PSB Exam

The following exam contains three separate test:

- General Mental Ability
    - Vocabulary
    - Math Word Problems
    - Geometric Relationships
- Spelling
- Natural Sciences

Following each test section is a clean answer sheet and an answer sheet with the correct bubbles filled in. (The later can be used as an overlay for easy scoring if you perforate the correct answer bubbles.)

Note: Since the General Mental Ability section measures the student's competency in three separate areas (vocabulary, math and geometric relationships), three separate overlay keys have been made available.

A scoring guide and chart for plotting your student's test scores is also included.

Administer this simulated test after the student has reviewed all materials in this guide. Allow at least one full week (more time is preferred) between the student's simulated test and actual PSB Exam. The student will need this time to address any weak skill areas as revealed by the simulated exam.

General Mental Ability - Part 1

You will have 30 minutes in which to do this part of the examination.

Directions: Part I measures how well you think and learn. The three sample exercises below are given so that you may see how to do this part of the examination.

Sample:

A B C D E
○ ● ○ ○ ○

(A) lessen (B) climb (C) decrease (D) decline (E) subside

The answer is (B) climb. The space under the letter (B) has been blackened in the answer row for sample question 1. All the other words are alike in meaning except for the word *climb*.

Sample: Sam spent 1/2 of his allowance of $2 on candy. How much did he spend?

A B C D E
○ ● ○ ○ ○

(A) $2 (B) $1 (C) $0 (D) $.50 (E) $.75

The answer is letter B. 1/2 of $2 is $1. The space under the letter has been blackened in the answer row for sample question 2.

Sample: ○ is to ○ as □ is to

A B C D E
○ ● ○ ○ ○

(A) △ (B) □ (C) ▭ (D) ○ (E) ▯

The answer is letter B. The shaded top portion of a rectangle is to the shaded bottom portion of a rectangle as the shaded top portion of a circle is to the shaded bottom portion of a circle.

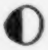
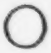
The space under the letter B has been blackened in the answer row for sample question 3.

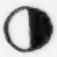
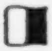
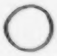
This is the way you mark all of your answers on the answer sheet for the questions that follow.

1. (A) desist (B) surcease (C) renounce (D) advocate (E) decry

2. Seventeen women out of a total of fifty-one men and women nurses applied for emergency room duty. What was the ratio of men to women applying?

(A) 1 to 2 (B) 3 to 1 (C) 2 to 1 (D) 1 to 3 (E) 4 to 1

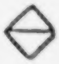
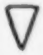
3.  is to  as is to

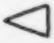
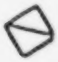
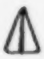
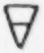
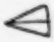
(A)  (B)  (C) (D)  (E)

4. (A) dubious (B) irresolute (C) certain (D) moot (E) debatable

5. What is the square root of 324?

(A) 12 (B) 36 (C) 162 (D) 18 (E) 324

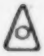
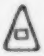
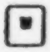
6. is to  as  is to

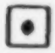
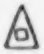
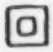
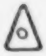
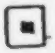
(A)  (B)  (C)  (D)  (E) 

7. (A) bloat (B) bulge (C) concave (D) distend (E) dilate

8. Ann won 5/8 of last week's lottery jackpot. She gave 1/5 of it, worth $4,000, to her mom. What was the jackpot worth?

(A)$32,000 (B) $8,000 (C) $4,000 (D) $3,200 (E) $10,000

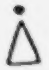
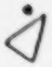
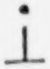
9.  is to  as  is to

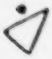
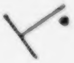
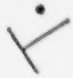
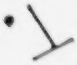
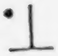
(A)  (B)  (C)  (D)  (E) 

[illegible]. (A) despotic (B) dictatorial (C) tyrannical (D) meek (E) ruthless

11. Which of the following has the smallest value:

(A) 0.0069 (B) 0.0109 (C) 1.0160 (D) 1.0000 (E) 0.1010

12.  is to  as  is to

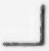
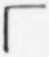
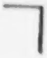
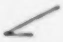
(A)  (B)  (C)  (D)  (E) 

13. (A) egregious (B) trivial (C) outrageous (D) glaring (E) obvious

14. Fourteen new beds, each six feet long, are being installed in the hospital's children's wing. If the floor length is fifteen feet, what fractional part of the floor is each bed?

(A) 3/5 (B) 2/7 (C) 1/2 (D) 2/5 (E) 3/4

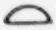
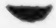
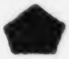
15. P is to d as L is to

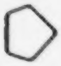
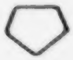
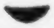
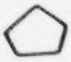
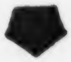
(A)  (B)  (C)  (D) d (E) 

16. (A) erudition (B) knowledge (C) ignorance (D) enlightenment (E) insight

17. Eleven is 20% of what?

(A) 2.2 (B) 221 (C) 22 (D) 55 (E) 100

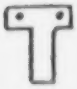
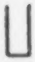
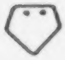
18.  is to  as  is to

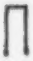
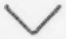
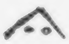
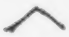
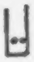
(A)  (B)  (C)  (D)  (E) 

19. (A) include (B) edit (C) delete (D) expurgate (E) omit

20. How many dozen drinking cups can we purchase for $19 if 1/4 dozen cost $.95?

(A) 2 (B) 5 (C) 19 (D) 16 1/2 (E) 1

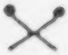
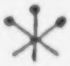
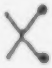
21.  is to  as  is to

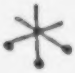
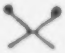
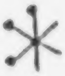
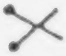
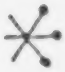
(A)  (B)  (C)  (D)  (E) 

22. (A) goad (B) incite (C) mitigate (D) arouse (E) spur

23. In the first quarter, the Philadelphia 76ers hit only 7 out of 25 field goal attempts. What was their scoring percentage?

(A) 28% (B) 32% (C) 72% (D) 76% (E) 18%

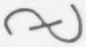
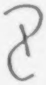
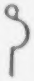
24.  is to  as  is to

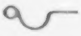
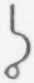
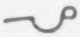
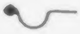
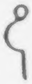
(A)  (B)  (C)  (D)  (E) 

25. (A) precise (B) meticulous (C) scrupulous (D) inexact (E) definite

26. If a young patient had $2 and spent $.30 on chips, $.50 for soda, and 1/10 of the change that was left on gum, how much money did he have left?

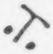
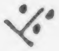
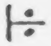
(A) $.12 (B) $1.20 (C) $1.08 (D) $1.18 (E) $1.28

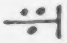
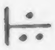
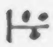
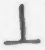
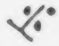
27.  is to  as  is to

(A)  (B)  (C)  (D)  (E) 

28. (A) recant (B) proffer (C) take back (D) rescind (E) recall

29. A man bought a set of picture frames for $20 at a garage sale. He sold them later for $34, making a profit of $2 on each frame. How many frames did he sell?
(A) 27 (B) 10 (C) 17 (D) 7 (E) 4

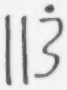
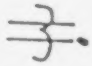
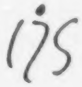
30.  is to  as  is to

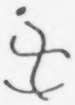
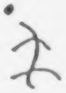
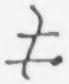
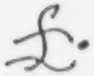
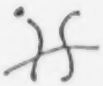
(A)  (B)  (C)  (D)  (E) 

31. (A) temerity (B) audacity (C) timid (D) reckless (E) rash

32. A cashier has four times as many nickels as quarters. If she has $3.60, how many nickels does she have?

(A) 8 (B) 20 (C) 6 (D) 12 (E) 32

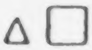
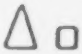
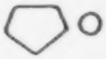
33.  is to  as  is to

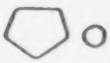
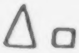
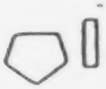
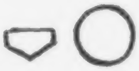
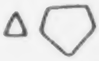
(A)  (B)  (C)  (D)  (E) 

34. (A) torpor (B) lethargy (C) apathy (D) involved (E) sluggish

35. A nine-foot square counter and work place is needed at one end of a floor which is 36 feet square. What will it cost to carpet the remaining floor if carpeting is $10 a square yard?

(A) $1,350 (B) $12,150 (C)$90 (D) $1,440 (E) $2,000

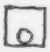
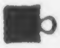
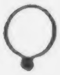
36.  is to  as  is to

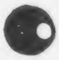
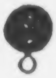
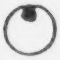
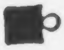
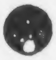
(A)  (B)  (C)  (D)  (E) 

37. (A) caustic (B) scathing (C) soothing (D) vitriolic (E) corrosive

38. What is the value of 3^4

(A) 12 (B) 7 (C) 64 (D) 34 (E) 81

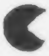
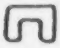
39.  is to  as  is to

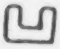
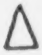
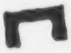
(A)  (B)  (C)  (D)  (E) 

40. (A) greedy (B) ascetic (C) voracious (D) eager (E) insatiable

41. In a class of 550 seniors, 42% are continuing their education. How many students is this?

(A) 275 (B) 231 (C) 23 (D) 400 (E) 320

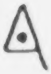
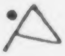
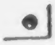
42.  is to as  is to

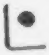
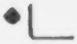
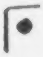
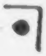
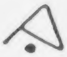
(A) (B)  (C)  (D) (E) 

43. (A) nadir (B) summit (C) zenith (D) apex (E) top

44. Elizabeth bought 6 bath towels. Five cost the same and one, due to a design defect, cost 1/3 as much. If she paid $48 for the towels, what was the full sale price of each towel?

(A) $9 (B) $8 (C) $7 (D) $10 (E) $11

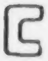
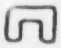
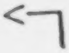
45.  is to  as  is to

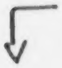
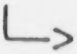
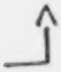
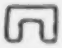
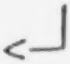
(A)  (B)  (C)  (D)  (E) 

46. (A) impractical (B) viable (C) feasible (D) effectual (E) possible

47. 28% of the workers at the factory were women. There were 432 male workers. What was the total number of workers at the factory?

(A) 460 (B) 12,096 (C) 600 (D) 1,543 (E) 404

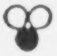
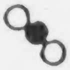
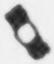
48.  is to  as  is to

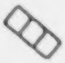
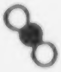
(A)  (B)  (C)  (D)  (E) 

49. (A) unkempt (B) impeccable (C) slovenly (D) messy (E) careless

50. If 3/5 of your salary is spent on food and clothes, what percent of your income is this?

(A) 40 (B) 75 (C) 80 (D) 25 (E) 60

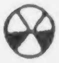
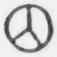
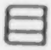
51.  is to  as  is to

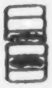
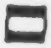
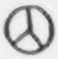
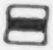
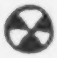
(A) (B) (C)  (D) (E) 

52. (A) hackneyed (B) trite (C) banal (D) unique (E) cliché

53. Gina has $2.50. She spent $1 on chips, $.50 for a soda and the remainder on chocolates at $.75 a pound. How many pounds of chocolates did she buy?

(A) .75 (B) 3.13 (C) 1 (D) 2 (E) 1.33

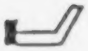
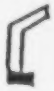
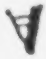
54.  is to  as  is to

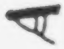
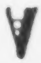
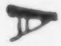
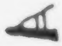
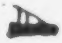
(A)  (B)  (C)  (D)  (E) 

55. (A) astute (B) perspicacious (C) obtuse (D) slow (E) perceptive

56. If Fred is 6 feet 2 inches tall and his son is 4 feet 3 inches tall, how many inches taller is Fred?

(A) 7 (B) 12 (C) 21 (D) 23 (E) 11

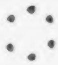
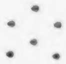
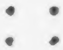
57.  is to  as  is to

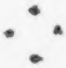
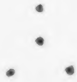
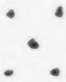
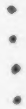
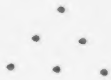
(A)  (B)  (C)  (D)  (E) 

58. (A) polemical (B) debatable (C) corroborative (D) argumentative (E) combative

59. Sarkis is a salesman. He receives a salary of $70 a week, plus a 6% commission on all his sales over $200. Last week, he sold $1,160 worth of merchandise. What was he paid for the week?

(A) $1,287.60 (B) $1,430.00 (C) $127.60 (D) $74.20 (E) $270.00

60.  is to  as  is to

(A)  (B)  (C)  (D)  (E) 

STOP

IF YOU FINISH BEFORE TIME IS UP, CHECK YOUR WORK ON THIS PART ONLY.

ANSWER SHEET FOR SIMULATED EXAM
LPN PROGRAM – PART I

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
12 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
13 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
14 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
15 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
16 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
17 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
18 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
19 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
20 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
22 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
23 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
24 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
25 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
26 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
27 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
28 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
29 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
30 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
31 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
32 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
33 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
34 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
35 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
36 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
37 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
39 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
40 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
41 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
42 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
47 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
48 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
49 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
50 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
51 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
52 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
53 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
54 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
55 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
56 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
57 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
58 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
59 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
60 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Math

ANSWER SHEET FOR SIMULATED EXAM
LPN PROGRAM - PART I

2 Ⓐ Ⓑ ● Ⓓ Ⓔ
5 Ⓐ Ⓑ Ⓒ ● Ⓔ
8 ● Ⓑ Ⓒ Ⓓ Ⓔ
11 ● Ⓑ Ⓒ Ⓓ Ⓔ
14 Ⓐ Ⓑ Ⓒ ● Ⓔ
17 Ⓐ Ⓑ Ⓒ ● Ⓔ

20 Ⓐ ● Ⓒ Ⓓ Ⓔ
23 ● Ⓑ Ⓒ Ⓓ Ⓔ
26 Ⓐ Ⓑ ● Ⓓ Ⓔ
29 Ⓐ Ⓑ Ⓒ ● Ⓔ
32 Ⓐ Ⓑ Ⓒ Ⓓ ●
35 ● Ⓑ Ⓒ Ⓓ Ⓔ

38 Ⓐ Ⓑ Ⓒ Ⓓ ●
41 Ⓐ ● Ⓒ Ⓓ Ⓔ
44 ● Ⓑ Ⓒ Ⓓ Ⓔ
47 Ⓐ Ⓑ ● Ⓓ Ⓔ
50 Ⓐ Ⓑ Ⓒ Ⓓ ●
53 Ⓐ Ⓑ Ⓒ Ⓓ ●

56 Ⓐ Ⓑ Ⓒ ● Ⓔ
59 Ⓐ Ⓑ ● Ⓓ Ⓔ

Verbal

ANSWER SHEET FOR SIMULATED EXAM
LPN PROGRAM - PART I

1 Ⓐ Ⓑ Ⓒ ● Ⓔ

4 Ⓐ Ⓑ ● Ⓓ Ⓔ

7 Ⓐ Ⓑ ● Ⓓ Ⓔ

10 Ⓐ Ⓑ Ⓒ ● Ⓔ

13 Ⓐ ● Ⓒ Ⓓ Ⓔ

16 Ⓐ Ⓑ ● Ⓓ Ⓔ

19 ● Ⓑ Ⓒ Ⓓ Ⓔ

22 Ⓐ Ⓑ ● Ⓓ Ⓔ

25 Ⓐ Ⓑ Ⓒ ● Ⓔ

28 Ⓐ ● Ⓒ Ⓓ Ⓔ

31 Ⓐ Ⓑ ● Ⓓ Ⓔ

34 Ⓐ Ⓑ Ⓒ ● Ⓔ

37 Ⓐ Ⓑ ● Ⓓ Ⓔ

40 Ⓐ ● Ⓒ Ⓓ Ⓔ

43 ● Ⓑ Ⓒ Ⓓ Ⓔ

46 Ⓐ ● Ⓒ Ⓓ Ⓔ

49 Ⓐ ● Ⓒ Ⓓ Ⓔ

52 Ⓐ Ⓑ Ⓒ ● Ⓔ

55 Ⓐ Ⓑ ● Ⓓ Ⓔ

58 Ⓐ Ⓑ ● Ⓓ Ⓔ

Non-Verbal

ANSWER SHEET FOR SIMULATED EXAM
LPN PROGRAM - PART I

3 Ⓐ Ⓑ ● Ⓓ Ⓔ
6 Ⓐ Ⓑ Ⓒ Ⓓ ●
9 ● Ⓑ Ⓒ Ⓓ Ⓔ
12 Ⓐ Ⓑ ● Ⓓ Ⓔ
15 Ⓐ Ⓑ ● Ⓓ Ⓔ
18 Ⓐ ● Ⓒ Ⓓ Ⓔ
21 Ⓐ ● Ⓒ Ⓓ Ⓔ
24 Ⓐ Ⓑ Ⓒ Ⓓ ●
27 Ⓐ Ⓑ ● Ⓓ Ⓔ
30 ● Ⓑ Ⓒ Ⓓ Ⓔ
33 Ⓐ Ⓑ Ⓒ ● Ⓔ
36 Ⓐ Ⓑ Ⓒ ● Ⓔ
39 ● Ⓑ Ⓒ Ⓓ Ⓔ
42 Ⓐ Ⓑ Ⓒ ● Ⓔ
45 Ⓐ ● Ⓒ Ⓓ Ⓔ
48 Ⓐ Ⓑ ● Ⓓ Ⓔ
51 ● Ⓑ Ⓒ Ⓓ Ⓔ
54 ● Ⓑ Ⓒ Ⓓ Ⓔ
57 Ⓐ Ⓑ Ⓒ Ⓓ ●
60 Ⓐ ● Ⓒ Ⓓ Ⓔ

SPELLING TEST

You will have 7 1/2 minutes in which to do this part of the examination.

DIRECTIONS: This test measures how well you can spell and what you know about the various rules of grammar as they are reflected in the spelling of certain words. Each line below contains a word with three different spellings. Only one spelling is correct. Select the correctly spelled word from each line.

Sample: (A) concede (B) consede (C) conceed

A B C
● O O

What is the letter of the word spelled correctly? The answer is the letter A, concede. In the answer row to the right above, the space under the letter A has been blackened. You will mark your answer in a similar fashion on the answer sheet.

1. (A) abreviate (B) abbreviate (C) abreveate
2. (A) canceled (B) cancelled (C) cannceled
3. (A) eligible (B) elligible (C) eligable
4. (A) grevious (B) greivous (C) grievous
5. (A) hiderance (B) hindrance (C) hindrence
6. (A) incidentaly (B) incidentally (C) incidantally
[illegible] (A) naturaly (B) naterally (C) naturally
8. (A) quotient (B) quoscient (C) quotent
9. (A) reference (B) referense (C) referance
10. (A) truley (B) truely (C) truly
11. (A) unnecessary (B) unnecesary (C) unnecessery
12. (A) vengence (B) vengeance (C) vengance
13. (A) sylable (B) syllabel (C) syllable
14. (A) adolesence (B) adolescence (C) adolecense
15. (A) wholely (B) wholy (C) wholly
16. (A) hygene (B) hygiene (C) hyigene
17. (A) dysentery (B) disentary (C) disyntery
18. (A) dyspeptic (B) dispeptic (C) despeptic
19. (A) proceed (B) procede (C) prosede
20. (A) desendant (B) descendent (C) desendent
21. (A) siege (B) seege (C) seige
22. (A) paralell (B) parallel (C) paralel
23. (A) sympathyze (B) simpathize (C) sympathize
24. (A) niese (B) neice (C) niece
25. (A) irresistible (B) iresistable (C) irresistable

Spelling Test Answer Sheet

1. (B) abbreviate
2. (A) canceled
3. (A) eligible
4. (C) grievous
5. (B) hindrance
6. (B) incidentally
7. (C) naturally
8. (A) quotient
9. (A) reference
10. (C) truly
11. (A) unnecessary
12. (B) vengeance
13. (C) syllable
14. (B) adolescence
15. (C) wholly
16. (B) hygiene
17. (A) dysentery
18. (A) dyspeptic
19. (A) proceed
20. (B) descendent
21. (A) siege
22. (B) parallel
23. (C) sympathize
24. (C) niece
25. (A) irresistible

INFORMATION IN THE AREA OF THE NATURAL SCIENCES - PART III

You will have 23 minutes in which to do this part of the examination.

DIRECTIONS; Part III is concerned with measuring your accumulated knowledge or information in the area of the natural sciences.

Below is a sample exercise to show you how to do this test.

Sample: A disease that affects the mind

A. mental illness
B. blood
C. tissue
D. common cold
E. pregnancy

A B C D E
○ ○ ○ ○ ○

Do the following items in the same manner, marking your answers on the separate answer sheet.

1. Organs connected to the small intestine are
A. trachea and stomach
B. epiglottis and esophagus
C. large intestine and lungs
D. pancreas and liver
E. pancreas and larynx

2. The basic unit of all living things is a
A. nucleus
B. protoplasm
C. chromosome
D. cell
E. gene

3. Most digestion takes place here
A. small intestine
B. pancreas
C. stomach
D. large intestine
E. liver

4. The scientific study of inherited traits is
A. biology
B. heredity
C. genetics
D. sociology
E. zoology

5. The tubes that branch into the lungs
   A. alveoli
   B. globules
   C. bronchial tubes
   D. ventricles
   E. air sacs

6. The ability that plants possess whereby they can make their own food from water, carbon dioxide, and sunlight is called
   A. metabolism
   B. transpiration
   C. assimilation
   D. photosynthesis
   E. respiration

7. The development and early growth of a plant from a seed is called
   A. fertilization
   B. pollination
   C. germination
   D. zygote
   E. cross-pollination

8. The liquid part of the blood made up largely of water
   A. plasma
   B. capillaries
   C. glucose
   D. hemoglobin
   E. veins

9. Organisms that have the same set of chromosomes per cell and are able to reproduce are
   A. classes
   B. kingdoms
   C. phyla
   D. species
   E. angiosperms

10. Asexual division of a cell into 2 identical cells is called
   A. meiosis
   B. mitosis
   C. reproduction
   D. heredity
   E. chromosomes

11. The brain and the spinal cords form the
   A. body's central nervous system
   B. cerebrum
   C. calyx
   D. cerebellum
   E. daughter cells

12. Living things are mainly classified according to their
A. environment
B. structure
C. habitat
D. appendages
E. mobility

13. Microscopic blood vessels
A. ventricles
B. capillaries
C. platelets
D. arteries
E. centrioles

14. Only 5% of the world's 1,000,000 species of animals in the world are
A. invertebrates
B. birds
C. vertebrates
D. mammals
E. primates

15. A watery form of protoplasm between the nucleus and the cell membrane
A. chloroplasts
B. flagella
C. cytoplasm
D. nucleus
E. nucleoplasm

16. Chemicals containing hereditary information needed for cells to reproduce
A. mitosis
B. DNA
C. osmosis
D. chromosomes
E. organellas

17. The part of the body at the top of the trachea containing vocal cords
A. epiglottis
B. esophagus
C. ventricles
D. tracheophytes
E. larynx

18. In any natural community, such as a grassland, a pond or a swamp, living and nonliving things affect each other; they interact. Such a community is called a(n)
A. biosphere
B. food chain
C. ecosystem
D. environment
E. consumer

19. Sheet of muscle that contracts while breathing
A. air sacs
B. diaphragm
C. alveoli
D. esophagus
E. epiglottis

20. Place lined with hairs and mucus through which air enters
A. windpipe
B. air sacs
C. nose
D. bronchial tubes
E. alveoli

21. Largest area of the brain
A. cortex
B. thalamus
C. cerebellum
D. cerebrum
E. midbrain

22. The only vein that carries oxygen - rich blood
A. pulmonary vein
B. aorta
C. vena cava
D. artia
E. ventricle

23. A drug that speeds body functions
A. hallucinogen
B. tranquilizers
C. depressant
D. sleeping pills
E. stimulant

24. A rod shaped body in an animal or plant cell nucleus that holds hereditary information
A. chromosome
B. gene
C. trait
D. genus
E. molecule

25. Number of chromosomes in a human being
A. 20
B. 23
C. 46
D. 64
E. 24

26. The flow of energy from the sun to producers to consumers is called
A. ecosystem
B. photosynthesis
C. food chain
D. Law of Conservation of Energy
E. Law of Conservation of matter

27. A substance in the blood which attacks foreign proteins and helps the body fight off infection or disease
A. alloy
B. antibody
C. recipient
D. water
E. toxin

28. The clotting of blood is aided by this
A. red blood cells
B. platelets
C. hemoglobin
D. pus
E. marrow

29. Normally the heart beats about this many times per minute
A. 31
B. 72
C. 105
D. 180
E. 75

30. The alimentary canal begins with this
A. mouth
B. small intestine
C. ears
D. peristalsis
E. duodenum

31. These are the finger like projections that extend inward from the lining of the small intestine
A. glands
B. bile
C. villi
D. enzymes
E. platelets

32. This removes most of the water from the food that was not digested or absorbed
A. small intestine
B. anus
C. appendix
D. large intestine
E. duodenum

33. Bile is produced in this organ
A. pancreas
B. gall bladder
C. appendix
D. stomach
E. liver

34. The scientific study of heredity
A. characteristics
B. genetics
C. purebred
D. hybrid traits
E. genealogy

35. Irregular curvature of the lens
A. myopia
B. astigmatism
C. denarites
D. hyperopia
E. axon

36. Layer of nerve endings in the back of the eye
A. retina
B. sensory neurons
C. cornea
D. optic nerve
E. lens

37. The tube that connects the middle ear with the throat
A. auditory canal
B. semicircular canal
C. pinna
D. cochlea
E. eustachian

38. Scientists who study the origin, history, and structure of the Earth are
A. historians
B. biologists
C. astronomer
D. geologists
E. environmentalists

39. The outer visible part of the ear
    A. pinna
    B. cochlea
    C. eardrum
    D. stirrup
    E. hammer

40. The swelling of the thyroid gland
    A. anemia
    B. goiter
    C. rhizoid
    D. alveoli
    E. cancer

41. Bone and teeth building minerals
    A. sugar and starch
    B. nutrients
    C. carbohydrates
    D. calcium and phosphorus
    E. fats and vitamins

42. The amount of heat energy needed to raise the temperature of 1,000 grams of water 1 degree Celsius
    A. calorie
    B. protein
    C. nutrient
    D. kilogram
    E. watt

43. The theory that states that the Earth's crust and mantle is divided into large sections is called
    A. metamorphic rock
    B. Celsius scale
    C. geological theory
    D. plate tectonics
    E. potential energy

44. Blood flows away from the heart through these
    A. ventricles
    B. atria
    C. marrow
    D. veins
    E. arteries

45. Blood returns to the heart through these
    A. ventricles
    B. atria
    C. marrow
    D. veins
    E. arteries

46. The atmosphere is made up of
    A. mixture of gases
    B. only one kind of gas
    C. mostly oxygen
    D. mixture of carbon dioxide and oxygen
    E. inert gases

47. The alimentary canal ends here
    A. duodenum
    B. small intestine
    C. anus
    D. gall bladder
    E. large intestine

48. Chemicals produced in the body that change the complex compounds of food to simple substances
    A. hydrochloric acid
    B. bile
    C. villi
    D. digestive enzymes
    E. cilia

49. All of the material or matter of the Earth is made up of
    A. molecules
    B. compounds
    C. energy
    D. element
    E. electrons

50. The first ten inches of the duodenum
    A. gall bladder
    B. villi
    C. large intestine
    D. anus
    E. small intestine

51. A protective coat or membrane that covers the lungs
    A. pleura
    B. diaphragm
    C. cilia
    D. bronchia
    E. alveoli

52. The bronchiolis open into clusters of these microscopic air sacs
    A. alveoli
    B. bronchial tubes
    C. pleura
    D. bronchi
    E. cilia

53. A drug used to control diabetes
A. vaccine
B. insulin
C. sabin
D. stimulant
E. heroin

54. Farsightedness
A. astigmatism
B. dendrites
C. myopia
D. hyperopia
E. retina

55. A good source of vitamin C (ascorbic acid)
A. fresh fruit and orange juice
B. milk
C. carrots
D. whole grain bread
E. eggs

56. Best known theory of evolution was set forth by this naturalist
A. Pasteur
B. Darwin
C. Madame Curie
D. Michael Angelo
E. Thoreau

57. Vitamin necessary to prevent pellagra
A. ascorbic acid
B. vitamin D
C. niacin
D. vitamin C
E. vitamin B_2

58. The chemical formula for water
A. CO_2

B. $C_6H_{12}O_6$

C. Na_2

D. CaO

E. H_2O

59. A way of measuring how high or low a sound is
A. hertz
B. volume
C. decibel
D. pitch
E. sound wave

60. Released as by-products in the process of respiration
A. oxygen and water
B. carbon dioxide and water
C. nitrogen and glucose
D. water and glucose
E. glucose and carbon dioxide

61. Non-vascular plants lacking stems, roots and leaves
A. bacteria
B. zygote
C. algae
D. mosses
E. angiosperms

62. The subject that studies the structure and behavior of matter.
A. geology
B. ecology
C. chemistry
D. physics
E. biology

63. Newton's First Law states that an object of rest tends to remain at rest, and an object in motion tends to keep moving in a straight line at the same velocity unless acted upon by an outside force. This is the law of
A. acceleration
B. interaction
C. friction
D. mechanics
E. inertia

ANSWER SHEET FOR SIMIULATED EXAM
INFORMATION IN THE AREA OF THE NATURAL SCIENCES - PART III

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
12 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
13 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
14 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
15 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
16 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
17 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
18 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
19 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
20 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
22 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
23 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
24 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
25 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
26 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
27 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
28 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
29 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
30 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
31 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
32 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
33 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
34 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
35 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
36 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
37 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
39 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
40 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
41 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
42 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
47 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
48 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
49 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
50 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
51 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
52 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
53 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
54 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
55 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
56 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
57 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
58 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
59 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
60 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
61 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
62 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
63 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Answer Key

General Mental Ability - Part 1

1. D
2. C
3. C
4. C
5. D
6. E
7. C
8. A
9. A
10. D
11. A
12. C
13. B
14. D
15. C
16. C
17. D
18. B
19. A
20. B
21. B
22. C
23. A
24. E
25. D
26. C
27. C
28. B
29. D
30. A
31. C
32. E
33. D
34. D
35. A
36. D
37. C
38. E
39. A
40. B
41. B
42. D
43. A
44. A
45. B
46. A
47. C
48. C
49. B
50. E
51. A
52. D
53. E
54. A
55. C
56. D
57. E
58. C
59. C
60. B

Spelling - Part II

1. B
2. A
3. A
4. C
5. B
6. B
7. C
8. A
9. A
10. C
11. A
12. B
13. C
14. B
15. C
16. B
17. A
18. A
19. A
20. B
21. A
22. B
23. C
24. C
25. A

Information in the Area of the Natural Sciences - Part III

1. D
2. D
3. B
4. C
5. C
6. D
7. C
8. A
9. D
10. B
11. A
12. B
13. B
14. C
15. C
16. B
17. E
18. C
19. B
20. C
21. D
22. B
23. E
24. A
25. C
26. C
27. B
28. B
29. B
30. A
31. C
32. D
33. E
34. B
35. B
36. A
37. E
38. D
39. A
40. B
41. D
42. A
43. D
44. E
45. D
46. A
47. C
48. D
49. D
50. E
51. A
52. A
53. B
54. D
55. A
56. B
57. C
58. E
59. A
60. B
61. C
62. C
63. E

Scoring Guide and Profile Chart

To determine a "passing" grade on an LPN Entrance Examination, the applicant's raw scores are graphed onto a percentile chart in order to compare her/his grade performance to the grade performances of other applicants for admission to schools of Practical Nursing throughout the United States.

- Double the student's raw score.
- Then find this score on the Percentile-Raw Score Conversion Tables.
- The corresponding percentile can then be plotted on the Test Record and Profile Chart. This chart will provide the student's overall competency levels at a glance.

The student requires a **50 percentile in each** subject for a passing grade. Of course, the student should strive for as high a score as possible.

Double The Student's Raw Score Before Using This Conversion Table

Percentile-Raw Score Conversion Tables

Verbal

Percentile	Doubled Raw Score
High-Superior	20-40
72	19
69	18
63	17
56	16
51	15
45	14
39	13
33	12
27	11
Below Average	10-0

Math

Percentile	Doubled Raw Score
High-Superior	21-40
76	20
70	19
64	18
60	17
57	16
51	15
43	14
40	13
34	12
32	11

Spelling

Percentile	Doubled Raw Score
Superior	46-50
94	45
91	44
87	43
82	42
77	41
71	40
64	39
55	38
51	37
46	36
38	35
34	34
30	33
Below Average	32-0

Non-Verbal

Percentile	Doubled Raw Score
High-superior	35-40
96	34
94	33
83	30
80	29
70	27
66	26
61	25
56	24
50	23
44	22
36	21
34	20
33	19
29	18
27	17
Below Average	16-0

Natural Sciences

Percentile	Doubled Raw Score
High-Superior	109-125
82	108
76	105
64	101
61	100
58	98
53	97
45	94
43	93
40	92
37	91
35	90
33	89
32	88
29	86
27	85
Below Average	84-0

TEST RECORD AND PROFILE CHART

Name of Student Testing Site Test Date

	Percentile Scores	Gen. Mental Ability V	Gen. Mental Ability A	Gen. Mental Ability N-V	Spelling	Natural Sciences	Percentile Scores
	99						99
	98						98
Superior	97						97
	96						96
	95						95
Very High	90						90
	85						85
High	80						80
	75						75
	70						70
High Ave.	65						65
	60						60
	55						55
Median	50						50
	45						45
	40						40
	35						35
Low Ave.	30						30
	25						25
	20						20
Below Ave.	15						15
	10						10
Low	5						5
	4						4
	3						3
Very Low	2						2
	1						1
	%ile						%ile
	Doubled Raw Score						

DOUBLE THE STUDENT'S RAW SCORE BEFORE USING THE CONVERSION TABLE

LPN Math Exercises

The math word problems that follow are not intended as initial instruction in the areas covered. These exercises are intended as a follow up to a general review of basic math:

Ratio and Proportion
Fractions
Percents
Decimals
Area
Roots and Powers
Selective problems in algebra

NOTE: The student does not need an entire review of beginning algebra to address questions on the PSB. Rather a very narrow expertise is required. (See the sample algebra questions to identify the area.)

Selective Bibliography for Math Review

Number Power 1 Illinois: Contemporary Books, Inc.	Addition, subtraction, multiplication and division of whole numbers.
Number Power 2 Illinois: Contemporary Books, Inc.	Fractions, decimals and Percents.
Number Power 6 Illinois: Contemporary Books, Inc.	Word Problems: Fractions, decimals and percents.
Number Power Review Illinois: Contemporary Books, Inc.	Whole numbers to algebra

LPN Math Exercises

Ratio

Problem

• Twenty women out of a total of thirty-five men and women plan to take the LPN entrance examination. What is the ratio of women to men planning to take the exam?

Solution Ratio of women to men.
Ratio 20 to 15.

Answer $\frac{20}{15} = \frac{4}{3} = 4$ to 3

Problem

• If 4 parts disinfectant are mixed with water to form a 10 parts mixture of disinfectant and water; what is the ratio of disinfectant to water?

Solution 4 parts to (10 - 4) parts =
4 parts to 6 parts $= \frac{4}{6}$ or $\frac{2}{3}$

Answer 2:3

Proportion

Problem

• If one box of bandages cost $2, how much would 4 boxes cost?

Solution

1 box is to $2, what 4 boxes is to how many dollars? Another way to express this is $\frac{1\text{ box}}{4\text{ boxes}}$ is to $\frac{\$2}{X}$

Multiply on the diagonal without the unknown value
(4 boxes x $2 = $8) Then divide this answer by the remaining value
($8 ÷ 1 = $8) **Answer** $8

-Proportion continued--

Problem

•If 1 1/2 tablets contain a 4 1/2 milligram dosage, how much dosage does 4 tablets contain?

Solution $$\frac{1\ 1/2\text{T}}{4\text{T}} = \frac{4\ 1/2 \text{ mil}}{X}$$

Multiply on the diagonal without the unknown value (4T x 4 1/2 mil= 18) . Then divide this answer by the remaining value.

$$18 \div 1\frac{1}{2} \text{ or } \frac{18}{1} \div \frac{3}{2} = \frac{18}{1} \times \frac{2}{3} = 12$$

Answer 12

Problem

•Sherry will sell her personal computer system for a price which is 60% of the new one she would like to buy. If she sells her present system for $900, what does the new computer cost?

Solution

Simply put, this problem states that 60% = $900.
To find the price of the new computer, set up a proportion:

$$\text{(Understood)}\quad \frac{60\%}{100\%} = \frac{\$900}{X}$$

Multiply on the diagonal without the unknown value (100% x $900 or 1 x $900 = $900). Then divide this answer by the remaining value: $900 ÷ 60%. So . . .

$.6\,\overline{)\$900}$ which is then solved $\begin{array}{r}1500.\\ 6\,\overline{)\$9000}\end{array}$

Answer $1500.

Problem

•If you can run 3 1/2 miles in 1/2 hour, how many hours will it take you to run 5 miles?

-Proportion continued-

Solution

$$\frac{3\ 1/2 \text{ miles}}{5 \text{ miles}} = \frac{1/2 \text{ hours}}{X \text{ hours}}$$

Multiply on the diagonal without the unknown value (5 x 1/2 = 2 1/2). Then divide this answer by the remaining value: $2\frac{1}{2} \div 3\frac{1}{2}$ which can be solved: $\frac{5}{2} \div \frac{7}{2}$ and so $\frac{5}{\cancel{2}_1} \times \frac{\cancel{2}^1}{7} = \frac{5}{7}$

Answer 5/7 hours

Problem

- A nursing directory contains 4000 names on the first 10 pages. How many names are on the first three pages?

Solution

$$\frac{4000 \text{ names}}{X} = \frac{10 \text{ pages}}{3 \text{ pages}}$$

Multiply on the diagonal without the unknown value (4000n x 3 pages = 12000 names). Then divide this answer by the remaining value: 12,000 ÷ 10 = 1,200 names

Answer 1,200 names

Fractions

Problem

- One of the heating ovens in the hospital kitchen is 6 feet high. The kitchen ceiling is 13 feet high. What fraction of the height of the kitchen is the height of the oven?

Solution

The oven occupies 6 of the 13 feet. Thus we have 6 parts out of a whole of 13 parts.

Answer 6/13

Problem

- One-tenth of our 200 patients have colds. How many patients have colds?

--Fractions continued--

Solution Multiply to find a fractional part of a whole.

$$\frac{1}{10} \text{ x } 200 \text{ so } \frac{1}{\underset{1}{\cancel{10}}} \text{ x } \frac{\overset{20}{\cancel{200}}}{1} = 20$$

Answer 20

Problem

•Mrs. Hodgson picked 60 boxes of strawberries. When she went to sell them the next morning, she found one of every 12 boxes too ripe for sale. How many boxes could she sell?

Solution Multiply to find a fractional part of a whole.

$$60 \text{ x } \frac{1}{12} \text{ so } \frac{\overset{5}{\cancel{60}}}{1} \text{ x } \frac{1}{\underset{1}{\cancel{12}}} = 5$$

Since 5 boxes were too ripe for sale, these are subtracted from the total: 60 - 5 = 55

Answer 55 boxes

Problem

•Ann can make 9 beds in twenty minutes. Mark can make 2/3 as many during that time. Carla can make 4/5 of the total number of beds that Ann and Mark can make. How many beds can Carla make in 20 minutes?

Solution

Ann: 9 beds in 20 minutes

Mark: $9 \text{ x } \frac{2}{3} \text{ so } \frac{\overset{3}{\cancel{9}}}{1} \text{ x } \frac{2}{\underset{1}{\cancel{3}}} =$ 6 beds in 20 minutes

Carla: 9 (Ann) + 6 (Mark) = 15

$$15 \text{ x } \frac{4}{5} \text{ so } \frac{\overset{3}{\cancel{15}}}{1} \text{ x } \frac{4}{\underset{1}{\cancel{5}}} = 12 \text{ beds}$$

Answer 12 beds

-Fractions continued-

Problem
•How many jars each holding 1 3/4 pounds of tomatoes can Margaret fill with 17 1/2 pounds of tomatoes?

Solution

$$17\frac{1}{2} \div 1\frac{3}{4} = \frac{35}{2} \div \frac{7}{4} = \frac{\overset{5}{\cancel{35}}}{\underset{1}{\cancel{2}}} \times \frac{\overset{2}{\cancel{4}}}{\underset{1}{\cancel{7}}} = \frac{10}{1}$$

Answer 10

Problem
•Ben had $2.00. He gave 1/10 of it to his big brother. He then spent 1/2 of what was left on apples for his friends. If the apples cost 30 cents per pound, how many pounds did he buy?

Solution

•Ben gave 1/10 of $2.00 to his brother. (Think of $2.00 as 200 cents.)

$\frac{1}{\underset{1}{\cancel{10}}} \times \frac{\overset{20}{\cancel{200}}}{1} = 20$ Ben gave 20 cents to his big brother.

• Ben spent 1/2 of what was left on apples.
$2.00 - .20 = 1.80 (Think of $1.80 as 180 cents)

$\frac{\overset{90}{\cancel{180}}}{1} \times \frac{1}{\underset{1}{\cancel{2}}} = 90$ Ben spent 90 cents on apples.

• Apples cost .30 a pound. How many pounds did he buy?

$\frac{90}{30} = 3$

Answer 3 pounds

Fraction to a Percent

Problem
•If 1/8 of your income is donated to charity, what percent of your income is this?

-Fraction to a percent continued-

Solution This problem is asking you to convert a fraction, 1/8, into a percent. First turn the fraction into a decimal by dividing the denominator into the numerator:

$$\begin{array}{r} .12\ 4/8 \text{ or } 1/2 \\ 8\overline{)1.00} \end{array}$$

Then convert the decimal into a percent by moving the decimal point two places to the right. .12 1/2 12 1/2%

Answer 12 1/2

Percents

Problem ("percent of")
- What is 14% of 5?

Solution First change percent to decimal and then multiply.
14% becomes .14, then

$$\begin{array}{r} .14 \\ \underline{\times 5} \\ .70 \end{array}$$

Answer .70

Problem ("Percent of")
- Suppose your income this year was $11,000 and that you must pay a Federal Income Tax of 5% on the first $8,000 and 8% on the next $10,000. What is the amount of Federal Income Tax you owe?

Solution To find 5% of $8,000, change the percent to a decimal and multiply. 5% = .05

$$\begin{array}{r} 8{,}000. \\ \underline{\times\ \ .05} \\ 400.00 \end{array}$$

-- $400. owed on $8,000.

Then find 8% on remaining $3,000.

$$\begin{array}{r} 3{,}000. \\ \underline{\times\ \ .08} \\ 240.00 \end{array}$$

-- $240. owed on $3,000.

Add the two owed amounts: $400. + $240. = $640.

Answer $640.

-Percents continued-

Problem (Percent one number is of another)
•Two is what percent of 8?

Solution Create a fraction, putting part over whole: 2/8. Reduce to 1/4. To change this fraction into a percent, divide the denominator into the numerator.

$$\begin{array}{r} .25 \\ 4\overline{)1.00} \end{array}$$

Then to change the decimal .25 to a percent, move the decimal two places to the right: 25%.

Answer 25%

Problem (Percent one number is of another)
•On a loan of $600, John has to pay $72 on interest. The interest represents what percent of John's loan?

Solution Make a fraction: $\frac{72}{600}$ then reduce it: $\frac{3}{25}$

Divide the denominator into the numerator: $\begin{array}{r} .12 \\ 25\overline{)3.00} \end{array}$

Then convert the decimal to a percent by moving the decimal two places to the right. .12 become 12%

Answer 12%

Problem (Finding a number when a percent of it is given.)
•Seven is 15% of what number?

Solution This problem actually tells you that 7 is 5%. Therefore set up a proportion problem.

$$\frac{7}{x} = \frac{5\%}{100\%}$$

Multiply on the diagonal (7 x 100% or 7 x 1 = 7), then divide by the remaining value.

$.05\overline{)7.}$ so $\begin{array}{r} 140. \\ 5\overline{)700.} \end{array}$

Answer 140.

-Percents continued-

Problem (Finding a number when a percent of it is given.)
•Lynn got 27 problems right on a math test. If this is 90% of the test, how many problems were on the test?

Solution This problem actually tells you that 27 is 90%. Therefore, set up a proportion problem.

$$\frac{27}{x} = \frac{90\%}{100\%}$$

Multiply on the diagonal (27 x 100%), then divide by the remaining value.

$$.90\overline{)27} \qquad 90\overset{30}{\overline{)2700.}}$$

Answer 30

Decimals

Problem
•Which has the smallest value: .07; .093; .2; .28?

Solution Vertically align all numbers by their decimal point. Then fill in zeros so that each has the same number of digits. Look at each as a whole number and select the smallest.

.070
.093
.200
.280

Answer .07

Problem
•David drove 223 miles on 12 gallons of gasoline. To the nearest tenth, find the average number of miles he drove on one gallon of gasoline.

Solution

$$12\overset{18.58}{\overline{)223.00}}$$

18.58 has 2 decimal points and indicates to the nearest hundredth. Round .58 to .6 for the nearest tenth.

Answer 18.6

Measurement

Problem

- Subtract 6 feet 4 inches from 7 feet.

Solution

$$\begin{array}{rr} 7' & \\ -\ 6' & 4'' \\ \hline \end{array} \qquad \begin{array}{rr} \overset{6}{\cancel{7'}} & 12'' \\ -\ 6' & 4 \\ \hline & 8'' \end{array}$$

Since you have nothing from which to subtract 4", you must borrow 1 foot from the feet column and convert it into inches to place in the inches column.

Answer 8"

Problem

- If the length of a piece of gauze is 2 feet 1 inch and you need 7 inches, how much will be left?

Solution

$$\begin{array}{rr} 2' & 1'' \\ - & 7'' \\ \hline \end{array}$$

Borrow 1 foot and convert it to inches.

$$\begin{array}{rrl} \overset{1'}{\cancel{2'}} & 13'' & (1+12) \\ - & 7'' & \\ \hline 1' & 6'' & \text{or } 1\ 1/2 \text{ foot} \end{array}$$

Answer 1' 6" or 1 1/2 foot

Problem

- Add 7 pounds 7 ounces to 15 pounds 11 ounces.

$$\begin{array}{rr} 7\text{lb} & 7\text{oz} \\ +\ 15\text{lb} & 11\text{oz} \\ \hline 22\text{lb} & 18\text{oz} \end{array}$$

Solution Since 16 ounces equals 1 pound, convert 18 ounces into 1 pound 2 ounces (1lb 2oz.) and add this to total pound value.

$$\begin{array}{rr} 22\text{lb} & \\ +\ 1\text{lb} & 2\text{oz} \\ \hline 23\text{lb} & 2\text{oz} \end{array}$$

Answer 22lb 2oz

Squares and Square Roots

Problem

- Determine the square of 4.

Solution A square is the product of any number multiplied by itself. Thus, the square of 4 is 16 since 4 x 4 = 16.

Answer 16

Problem

- Determine the square of 12.

Solution 12 x 12 = 144 **Answer** 144

Problem

- Determine the square root of 64.

Solution The square root is that number that when multiplied by itself gives the square. 8 is the square root of 64 since 8 x 8 = 64.

Answer 8

Problem

- What is the square root of 81?

Solution 9 x 9 = 81 **Answer** 9

Powers and Roots

Problem

- What is the value of 5^3?

Solution The figure 5^3 is read as "five to the third power." The 5 is called the base and the 3 is called the exponent. The exponent tells how many times to multiply the base by itself.
Thus $5^3 = 5 \times 5 \times 5$ **Answer** 125

-Powers & Roots continued-

Problem
•Find the value of 3^6.

Solution 3 x 3 x 3 x 3 x 3 x 3 = 729

Answer 729

Area

Problem
•The snack shop of a nursing home requires a 24 ft x 45 ft carpet. If carpeting costs $14 per square yd, how much will it cost to carpet the reception area?

Solution First convert square feet into square yards: There are 3 feet to a yard, thus 24 sq ft becomes 8 sq yds and 45 sq ft becomes 15 sq yds.

Then apply the formula for finding square area--L x W:
8 x 15 = 120 sq yds.

Answer: 120 sq yds.

Problem
•Black-topping needs to be done to a hospital entrance 300 feet square. If materials cost $6 a square yard, how much will the job cost?

NOTE: A space '300 feet square' means a square whose sides are each 300 feet long.

Solution: •First convert given dimensions into square yards.
300 sq ft x 300 sq feet becomes 100 sq yds x 100 sq yds.
100 x 100 = 10,000 sq yds.
• Next multiply total sq yds by cost per sq yd: 10,000 & $6.

Answer: $60,000.

Reasoning

Problem
•You bought a box of blank VCR tapes for $40. You resold them for a profit of $2. on each tape, taking in $60. How many tapes were in the box?

Solution Write down what is known in order to 'see' the reasoning involved.
Total Profit = (sale) \$60. - (cost) \$40. = \$20.
Profit per tape = \$2
The problem now reads: How many tapes were bought, if a \$2 profit was made on each one, for a total profit of \$20?
$20 \div 2 = 10$

Answer 10 tapes

Problem

•Theresa flew from California to New York, falling asleep just after take off at 10pm and awakening upon landing 5 hours later. If New York is 3 hours ahead of us, at what time did she arrive?

Solution California to New York: 10pm + 5 hours = 3am
Add 3 hours to adjust for New York time: 3am + 3 hours= 6am

Answer 6am

Algebra

Problem

•If you have four times as many nickels as quarters for a total value of \$3.60, how many of each coin do you have?

Solution Step 1 Let Q = number of quarters
Step 2 Let 4 x Q = number of nickels or 4Q.

•Create a formula that indicates the value of a quarter multiplied by the number of quarters: \$.25 x Q = \$.25Q

•Create a formula that indicates the value of a nickel multiplied by the number of nickels:

\$.05 x 4 x Q = \$.20 x Q = \$.20Q

Step 3 Value of quarters + value of nickels = total value
.25Q + .20Q = \$3.60
(.25 Q + .20 Q = .45 Q)

$.45\,Q = \$3.60 \qquad \frac{.45\,Q}{.45} = \frac{\$3.60}{.45}$

Answer Q = 8

-Algebra continued-

Problem

•A parking meter, when emptied, yielded twice as many dimes than nickels for a total worth of $6.25. How many of each coin were there?

Solution Let N = Number of nickels
Let 2N = Number of dimes

$.05 \times N + .10 \times 2N = \$6.25$
$.05N + .20N = \$6.25$
$.25N = \$6.25 \qquad \frac{.25N}{.25} = \frac{\$6.25}{.25} \qquad N = 25$

N = 25 nickels
2N = 2 x 25 = 50 dimes

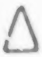
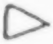
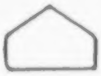
Geometric Relationships

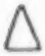
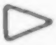
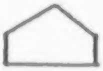
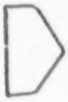
including a Geometric and Math Quiz

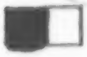
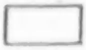
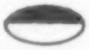
In this section you'll find a "how to" guide for interpreting relationships between geometric figures. Also included are practice exercises with a follow-up quiz combining both geometric relationship and math problems.

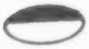
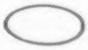
Geometric Relationships

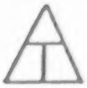
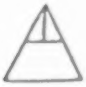
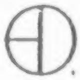
In this section of the general mental ability - Part 1, you will be asked to determine the relationship of one geometric figure to another when another relationship is know. Solving these problems is a matter of practice. The approach is always the same - to determine a relationship between two figures and apply it to a second set. Practice determining the correct solutions to the following illustrations.

1.  is to  as  is to?

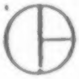
The triangle  is tipped 1/4 turn  so:  

2.  is to  as  is to?

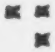
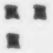
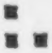
1/2 of a shaded square is no longer shaded. Thus,  —> 

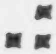
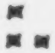
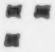
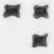
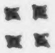
3.  is to  as  is to?

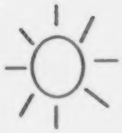
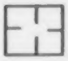
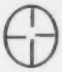
The vertical line intersects with the tip. Thus, the horizontal line intersects with opposite side of the circle.

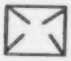
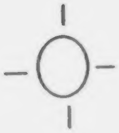
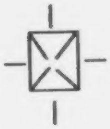
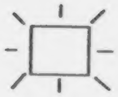
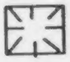


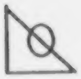
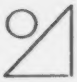
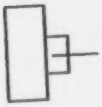
After you have restudied the above, work the following problems:

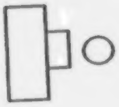
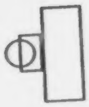
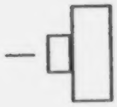
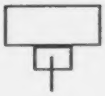
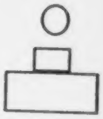
1.  is to  as  is to:

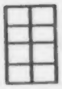
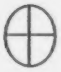
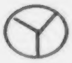
a.  b.  c.  d.  e. 

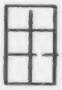
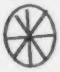
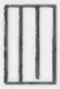
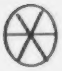
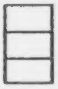
2.  is to  as  is to:

a.  b.  c.  d.  e. 

3.  is to  as  is to:

a.  b.  c.  d.  e. 

4.  is to  as  is to:

a.  b.  c.  d.  e. 

Answers

1.a; 2. d; 3. c; 4.a

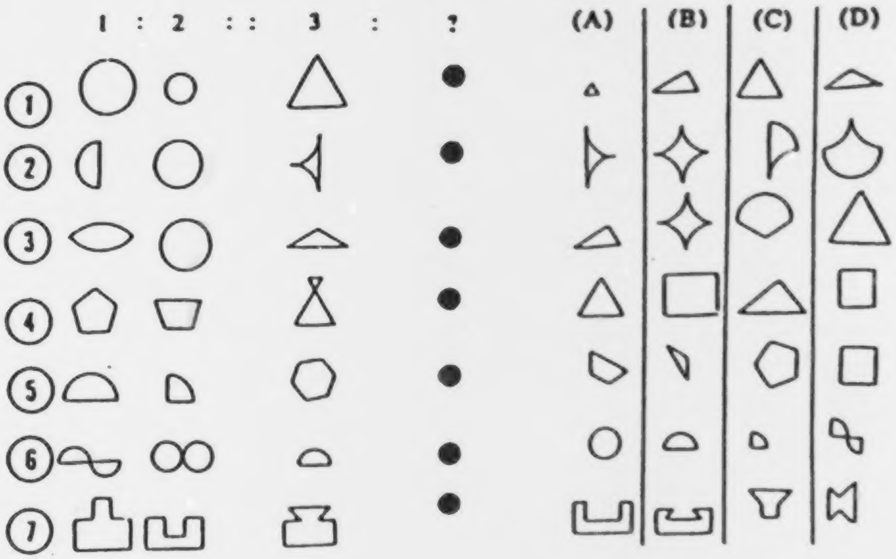
Figure Analogies

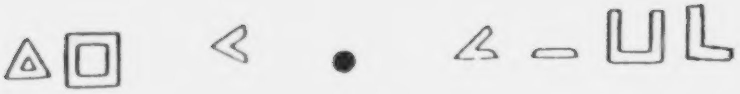
Your ability to see the difference between, and the relationship between various abstract symbols is one indication of your ability to learn. It is a measure of your ability to meet new situations and evaluate them. The following practice questions will help to familiarize you with this type of question.

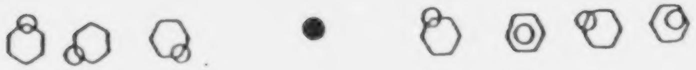
Directions

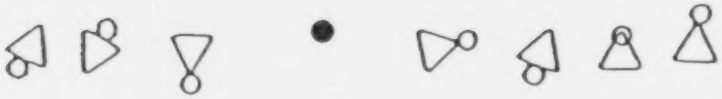
In the following problems, the symbols in columns 1 and 2 have a relationship to each other. Select from the symbols in columns A, B, C, and D the symbol which has the same relationship to the symbol in column 3, as the symbol in column 2 has to the symbol in colum 1:

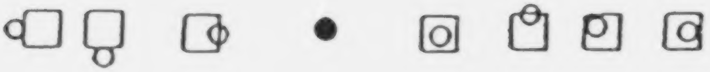
TEST QUESTIONS FOR PRACTICE

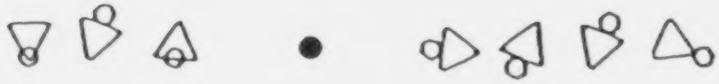


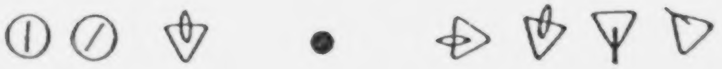
8. 

9. 

10. 

11. 

12. 

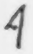
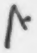
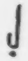
13. 

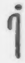
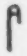
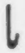
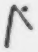
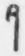
Answer Key

1. C
2. B
3. D
4. A
5. A
6. A
7. B
8. C
9. A
10. D
11. B
12. B
13. B

Geometric & Math Quiz

1. Shrubbery is to be planted in a 9 foot by 21 foot space next to the children's wing of the new hospital. If a 200 pound bag of soil is needed for every square yard, how many bags of soil are need?

2.  is to  as  is to?

a.  b.  c.  d.  e. 

3. Fourteen is 20% of what number?

4. A tablet contains 1/10 mg of a drug. If the physician prescribes a dosage of 2/10 mg, how many tablets should the patient be given.

5. Find the square root of 289?

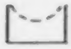
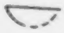
6. Determine the smallest decimal: .2; .002; .012; .02; .101

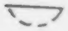
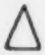
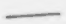
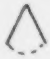
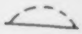
7. If you spend $1000 on tuition and $3000 on food and housing, what percent of these costs is tuition?

8. Ann owned one-half of a collection of rare stamps, she sold one-quarter of it to Deb for $500. Determine the worth of the full collection.

9. What is the value of 2^5?

10. Alicia bought 30 doughnuts at $4 a dozen for 20 nurses. If only one-half this number of nurses attend this get-together, how much would it have cost Alicia to have originally planned for this number?

11.  is to  as is to?

a.  b.  c.  d.  e. 

12. If 7 syringes out of a pack of 100 are defective, what percent of the syringes in a pack are defective?

Geometric & Math Quiz - Solutions

1. Answer: 21 bags

   - Convert feet to yards
     9 ft. = 3 yds.　　　21 ft. = 7 yds.

   - Find square area in yards
     3 yds. x 7 yds. = 21 sq. yds.

   - Problem states that a 200 lb. bag of soil is needed for each square yard. Therefore, 21 bags are needed for 21 square yards.

2. Answer: c

   Turn form over and place dot inside.

3. Answer: 70

   - Use proportion formula
     $\frac{14}{x}$ is to $\frac{20\%}{100\%}\frac{(.20)}{(1.)}$

   - Multiply on the diagonal without the unknown value (14x1 = 14). Then divide this answer by the remaining value ($.20\overline{)14\ }$)

   After you move decimals

$$\begin{array}{r|l} & \overline{\ \ \ 70\ \ } \\ 20 & 1400 \\ & \underline{140} \\ & \ \ \ 00 \end{array}$$

4. Answer: 2 tablets

   Use proportion to solve problem.

   - 1 tablet is to $\frac{1}{10}$ drug

   $\frac{1}{X}$ tablet = $\frac{1/10}{2/10}$

- Multiply on the diagonal $(1 \text{ X } \frac{2}{10} = \frac{2}{10})$
  Then divide by remaining value.
  $(\frac{2}{10} \div \frac{1}{10}$ or $\frac{2}{10} \times \frac{10}{1} = 2)$

5. Answer: 17

   17 x 17 = 289

6. Answer: .002

   .200
   .002
   .012
   .020
   .101

   - Align numbers by decimal. Add zeros so that each number holds the same number of decimal places.

   - Choose smallest number. 12 is smallest number, hence .012 is smallest decimal.

7. Answer: 25%

   - First create fraction with part over whole and reduce.

   $1000 = tuition
   $4000 = total expenses, thus $\frac{1000}{4000} = \frac{1}{4}$

   - To turn fraction into decimal divide denominator into numerator.

$$\begin{array}{r|l} & \underline{.25} \\ 4 & 1.00 \\ & \underline{8} \\ & 20 \end{array}$$

To turn decimal into percent move decimal 2 places to right.
25%

8. Answer: $4,000

   Ann owned $\frac{1}{2}$ of collection

   Deb bought $\frac{1}{4}$ of $\frac{1}{2}$ for $500

   $\frac{1}{4} \times \frac{1}{2}$ = $500
   or 1/8 = $500

9. Answer: 32

$2 \times 2 \times 2 \times 2 \times 2 = 32$

10. Answer: $5

- First find how many dozen are in 30

So, $2\frac{6}{12}$ or $2\frac{1}{2}$

$$\begin{array}{rl} & 2 \\ 12 & \overline{)30} \\ & \underline{24} \\ & 6 \end{array}$$

- Then multiply $2\frac{1}{2}$ by $4

$2\frac{1}{2} \times 4$ or $\frac{5}{2} \times \frac{4}{1}$ $\frac{20}{2}$ = $10

- $\frac{1}{2}$ of 10 = 5

11. Answer: e

- Complete the whole of each figure.

12. Answer: 7%

- First create fraction with part over whole $\frac{7}{100}$

$\frac{7}{100}$ is equal to 7%

Vocabulary Pre-Test

The student's vocabulary skills are assessed in the General Mental Ability of the PSB Exam. In this, Part I of the test, vocabulary questions are intermixed with those on math and geometric relationships. The purpose of this pre-test is two-fold: to assess the student's vocabulary skill level and to provide the student exposure to the vocabulary question format.

The words in this pre-test reflect the difficulty level of the PSB vocabulary and, in many cases, will underscore to your student his or her need for vocabulary improvement. Again, provide this test and answer key to the student as a study guide. Likewise, provide your student materials in this manual from the Vocabulary Study Guide.

VOCABULARY LIST

Sample: (A) Combine (B) Blend (C) Merge (D) Separate
In the above "set" of words, which word is most different in meaning from that of the other words? **Separate** is the correct answer. What is the letter in front of **Separate**? The letter is D. The circle with the letter D in the center should be blackened in the answer row for this problem.

1. (A) desist (B) surcease (C) renounce (D) advocate
2. (A) dubious (B) irresolute (C) certain (D) moot
3. (A) bloat (B) bulge (C) concave (D) distend
4. (A) despotic (B) dictatorial (C) tyrannical (D) meek
5. (A) egregious (B) trivial (C) outrageous (D) glaring
6. (A) erudition (B) knowledge (C) ignorance (D) enlightenment
7. (A) include (B) edit (C) delete (D) expurgate
8. (A) goad (B) incite (C) arouse (D) mitigate
9. (A) precise (B) meticulous (C) scrupulous (D) inexact
10. (A) recant (B) proffer (C) take back (D) rescind
11. (A) temerity (B) audacity (C) timid (D) reckless
12. (A) torpor (B) lethargy (C) apathy (D) involved
13. (A) caustic (B) scathing (C) soothing (D) vitriolic
14. (A) greedy (B) voracious (C) overly eager (D) ascetic
15. (A) zenith (B) summit (C) apex (D) nadir
16. (A) impractical (B) viable (C) feasible (D) effectual
17. (A) unkempt (B) impeccable (C) slovenly (D) messy
18. (A) hackneyed (B) trite (C) banal (D) unique
19. (A) astute (B) perspicacious (C) obtuse (D) perceptive
20. (A) polemical (B) debatable (C) corroborative (D) argumentative

VOCABULARY LIST

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ
5 Ⓐ Ⓑ Ⓒ Ⓓ
6 Ⓐ Ⓑ Ⓒ Ⓓ
7 Ⓐ Ⓑ Ⓒ Ⓓ
8 Ⓐ Ⓑ Ⓒ Ⓓ
9 Ⓐ Ⓑ Ⓒ Ⓓ
10 Ⓐ Ⓑ Ⓒ Ⓓ
11 Ⓐ Ⓑ Ⓒ Ⓓ
12 Ⓐ Ⓑ Ⓒ Ⓓ
13 Ⓐ Ⓑ Ⓒ Ⓓ
14 Ⓐ Ⓑ Ⓒ Ⓓ
15 Ⓐ Ⓑ Ⓒ Ⓓ
16 Ⓐ Ⓑ Ⓒ Ⓓ
17 Ⓐ Ⓑ Ⓒ Ⓓ
18 Ⓐ Ⓑ Ⓒ Ⓓ
19 Ⓐ Ⓑ Ⓒ Ⓓ
20 Ⓐ Ⓑ Ⓒ Ⓓ

VOCABULARY
ANSWER SHEET

1.	(D)	advocate
2	(C)	certain
3.	(C)	concave
4.	(D)	meek
5.	(B)	trivial
6.	(C)	ingnorance
7.	(A)	include
8.	(D)	mitigate
9.	(D)	inexact
10.	(B)	proffer
11.	(C)	timid
12.	(D)	involved
13.	(D)	soothing
14.	(D)	ascetic
15.	(D)	nadir
16.	(A)	impractical
17.	(B)	impeccable
18.	((D)	unique
19.	(D)	obtuse
20.	(C)	corroborative

Spelling Pre-test

Medical Terminology

This Spelling Pre-test on medical terminology is intended both as a spelling assessment and a study guide. Generally, students without a medical background will find this to be a difficult test. After administering this test, provide the student the answer key as a study guide for learning these words. Also provided for study is a brief list of medical words.

NOTE: The student must also demonstrate competency in general spelling skills. For study guide material, see the study guide on Spelling.

LPN SPELLING PRE-TEST

Below are some words commonly used and misspelled in the medical field. See how well you can identify the correct spelling. Look up any term you are not familiar with in a dictionary or medical dictionary.

Sample: (A) concede (B) consede (C) conceed (D) conseed

A B C D
● ○ ○ ○

What is the letter of the word spelled correctly? The answer is the letter A, concede. In the answer row to the right above, the space under the letter A has been blackened. You will mark your answer in a similar fashion on the answer sheet.

1.	(A) absorbant	(B) absorebent	(C) absorbent	(D) absorbint
2.	(A) amputee	(B) ampewtee	(C) amputy	(D) ammputee
3.	(A) anatimy	(B) annatomy	(C) anadomy	(D) anatomy
4.	(A) antiseptic	(B) antyseptic	(C) antiseptick	(D) antisebtic
5.	(A) capallary	(B) capillary	(C) capilary	(D) cappillary
6.	(A) centameter	(B) centimeder	(C) sentimeter	(D) centimeter
7.	(A) clinacal	(B) clintical	(C) clinical	(D) clinecal
[illegible]	(A) convalescent	(B) convalesent	(C) convolescent	(D) convalecent
9.	(A) consious	(B) conscious	(C) conshious	(D) conshess
10.	(A) diagnoses	(B) dyagnosis	(C) diagnosses	(D) diagnosis
11.	(A) diafram	(B) diaphram	(C) dyaphram	(D) diaphragm
12.	(A) discapline	(B) dissipline	(C) discipline	(D) disciplin
13.	(A) disease	(B) dizeaze	(C) dissease	(D) diseaze
14.	(A) enviroment	(B) environment	(C) envyroment	(D) enviromment
15.	(A) extremity	(B) extremmity	(C) extremitty	(D) extremidy
16.	(A) fomentashun	(B) fomentasion	(C) fomentation	(D) fommentation
17.	(A) gawze	(B) gause	(C) gauze	(D) gauz
18.	(A) geriatricks	(B) jeriatricks	(C) geriadrics	(D) geriatrics
19.	(A) hemiglobin	(B) hemoglobin	(C) hemogloben	(D) hemeglobin
20.	(A) hemorrhage	(B) hemorage	(C) hemorrage	(D) hemmorrage
21.	(A) insision	(B) incision	(C) inscision	(D) inscition
22.	(A) inflammasion	(B) inflamation	(C) inflammation	(D) inflamasion
23.	(A) intesinal	(B) intestinal	(C) intestinol	(D) intestenal
24.	(A) introvenous	(B) intrivenious	(C) intrivenous	(D) intravenous
25.	(A) iselasion	(B) isolasion	(C) isolation	(D) iselation
26.	(A) membrain	(B) membrane	(C) membran	(D) memebrane
27.	(A) metabolism	(B) medabolism	(C) metabilism	(D) metabolizm
28.	(A) nucleus	(B) nucleous	(C) newcleus	(D) nukleus
29.	(A) orifis	(B) orafice	(C) orifice	(D) orifiss

30 (A) pediatricks (B) pedeatrics (C) pediatrics (D) pedeadrics
31. (A) prognosses (B) prognossis (C) prognoses (D) prognosis
32. (A) proteen (B) protein (C) protene (D) proteine
33. (A) rehabilitation (B) rehabillitation (C) rehabilatation (D) rehabilitasion
34. (A) sanatized (B) sannitized (C) sanitized (D) santitized
35. (A) seditive (B) sedetive (C) setative (D) sedative
36. (A) skeliton (B) skeleton (C) skelaton (D) skelleton
37. (A) specimen (B) speciman (C) specamen (D) spesimen
38. (A) stereal (B) starerile (C) sterile (D) sterrile
39. (A) surgecal (B) sergical (C) surgicial (D) surgical
40. (A) symtom (B) simptom (C) symptom (D) symptomm
41. (A) terminal (B) termenal (C) terminol (D) terminnal
42. (A) tharepy (B) therapy (C) tharapy (D) therepy
43. (A) tonsillitis (B) toncilitis (C) tonselitis (D) tonsilitis
44. (A) tromma (B) tramma (C) tramua (D) trauma
45. (A) transfussion (B) transfusion (C) transfution (D) transfushun
46. (A) vaccination (B) vacination (C) vaccinasion (D) vacinasion

LPN SPELLING PRE-TEST

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
5 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
6 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
7 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
8 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
9 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
10 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
12 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
13 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
14 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
15 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
16 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
17 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
18 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
19 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
20 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
21 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
22 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
23 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
24 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
25 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
26 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
27 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
28 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
29 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
30 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
31 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
32 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
33 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
34 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
35 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
36 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
37 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
39 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
40 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
41 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
42 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
43 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
44 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
45 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
46 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

LPN Spelling Pre-Test Answers

1. (C) absorbent
2. (A) amputee
3. (D) anatomy
4. (A) antiseptic
5. (B) capillary
6. (D) centimeter
7. (C) clinical
8. (A) convalescent
9. (B) conscious
10. (D) diagnosis
11. (D) diaphragm
12. (C) discipline
13. (A) disease
14. (B) environment
15. (A) extremity
16. (C) fomentation
17. (C) gauze
18. (D) geriatrics
19. (B) hemoglobin
20. (A) hemorrhage
21. (B) incision
22. (C) inflammation
23. (B) intestinal
24. (D) intravenous
25. (C) isolation
26. (B) membrane
27. (A) metabolism
28. (A) nucleus
29. (C) orifice
30. (C) pediatrics
31. (D) prognosis
32. (B) protein
33. (A) rehabilitation
34. (C) sanitized
35. (D) sedative
36. (B) skeleton
37. (A) specimen
38. (C) sterile
39. (D) surgical
40. (C) symptom
41. (A) terminal
42. (B) therapy
43. (A) tonsillitis
44. (D) trauma
45. (B) transfusion
46. (A) vaccination

Occupational Wordage

Medical

absorbent
amputee
anatomy
antiseptic
artery
capillary
centimeter
clinical
convalescent
conscious
diagnosis
diaphragm
discipline
disease
environment
extremity
fomentation
gauze
geriatrics
hemoglobin
hemorrhage
hygiene
incision
inflammation
intestinal

intravenous
isolation
membrane
metabolism
nucleus
orifice
pediatrics
prognosis
protein
rehabilitation
sanitized
sedative
serum
skeleton
specimen
sterile
surgical
symptom
terminal
therapy
tonsillitis
toxin
trauma
transfusion
vaccination

Anatomy

Part III of the PSB Exam is called **Information in the Natural Sciences**. A large portion of this part of the test consists of questions dealing with anatomy--body structures and functions. The packet that follows provides a condensed review of information included in the test. However, a good suppliment to this resource is the life science section included in Arco's ***Nursing School Entrance Examination*** (12th edition). Likewise, many resources that cover anatomy and/or life science are useful. A good place to look for information on these topics are in GED science texts published by Contemporary, Steck-Vaughn and Cambridge. If your program provides GED instruction, you may already have some of these resources available.

Selective Bibliography for Anatomy Review

Gooding, Marion F. *Arco: Nursing School Entrance Examinations*. New York: Prentice Hall, 1994

Fong, Elizabeth, Elvira B. Ferris, and Esther G. Skelly. *Body Structures & Functions*, 7th ed. Albany: Delmar Publishers, 1989.

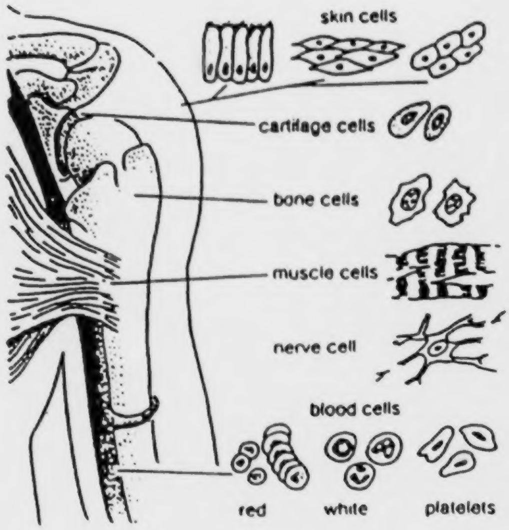
The Human Body

Lesson 1 - The Basic Structure

For hundreds of years, people have studied the human body. They have sought to know the chemicals of which the body is composed, how these chemicals are combined, and how the body works smoothly as a unit. Scientists have given the name **anatomy** to the study of the structure of the body. The study of the jobs performed by the various parts of the body is called **physiology**. Through the study of anatomy and physiology, doctors have learned ways to help the human body operate correctly.

For many years, scientists have known that the body is composed of **elements**, or simple chemicals, such as carbon, oxygen, hydrogen, nitrogen and many others. These elements are chemically combined in the body to form **compounds.** Inside the body, chemical changes continuously take place. The body converts food into usable energy, eliminates waste, stores food and builds new cells. All these chemical changes are part of a process called metabolism. **Metabolism** may be defined as the sum of all the chemical changes that take place in the body.

The human body is made up of tiny living units called **cells**. Body cells are microscopic in size. Each cell must perform certain functions in order for the whole body to function. Each cell grows and grows and develops by using the food that is brought to it by the blood. Each cell can dispose of its wastes, respond to heat, and reproduce. For maximum health, a cell needs the benefits of sunshine, fresh air, good food, exercise, and rest.



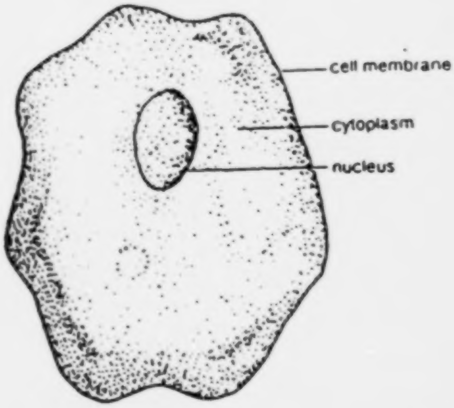
There are many kinds of cells in the body.

The adult human body may contain hundreds of trillions of cells. These cells perform different jobs and may look different, but they are all alike in basic structure.

The main parts of the cell are the cell membrane, the nucleus, and the cytoplasm between these two. The **cell membrane** surrounds the cell and controls substances passing into and out of it. The nucleus controls the activity of the cell, and the cytoplasm provides a medium for the transportation of substances. In addition, there are structures in the cytoplasm that provide energy for the cell, storage for the cell, and make the chemical substances needed by the cell.

Groups of similar cells that work together form a **tissue**. Some of the tissues of the body are muscle, nerve, skin, and connective tissue.

The various kinds of tissues may be combined in the body to form **organs**. The heart, eyes, brain, stomach, and lungs are examples of organs. Organs perform specific jobs in the body. Several organs that work together form an **organ system**. Some of the organ systems of the body are the circulatory system, the nervous system, the digestive system, the respiratory system, and the reproductive system.



The basic structure of an animal cell consists of a cell membrane, cytoplasm, and a nucleus.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

anatomy
physiology
element
compound
metabolism
cells
cell membrane
nucleus organ
cytoplasm
tissue
organ
organ system

B. Complete the following sentences by writing the correct term in each blank.

1. ____________________ is the study of the structure of the body.
2. The three main parts of a cell are the ____________________, the ______________, and the ______________.
3. Similar cells may be grouped to form ______________, which may be combined to form ______________.
4. ____________________ is the sum of all chemical changes that take place in the body.
5. The study of the jobs performed by the various parts of the body is called ______________.

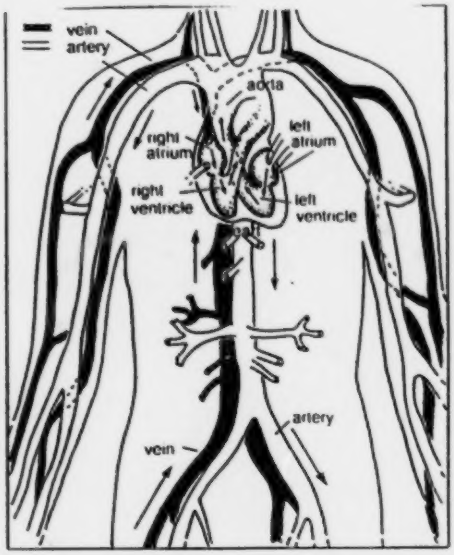
Lesson 2 - The Circulatory System

When food taken into the body is changed into a form that is usable by the body's cells, it must be sent to all parts of the body. The cells also must be supplied with oxygen. The body also must have a way of removing the waste products from each of the cells. These tasks are all performed by the blood.

The blood is composed largely of a clear, watery fluid called **plasma.** Along with the plasma are red and white blood cells and cell fragments called platelets.

The **red blood cells** are manufactured mainly in the **marrow**, the soft, inner tissue of the bones. Red blood cells contain a substance called **hemoglobin,** which gives blood its reddish color. Hemoglobin helps the red blood cells in carrying oxygen to the body cells.

The **white blood cells** act as the body's defenders against infection. They are able to leave the bloodstream and fight bacteria that may enter the body through a cut or scratch. The white blood cells either kill the bacteria or die in the battle. The yellowish matter, or pus, that forms around wounds is composed of the dead bacteria and dead white blood cells.



The circulatory system transports blood through the human body.

The **platelets** aid in stopping the loss of blood from a cut. Acting with other substances in the blood, platelets cause the blood to clot when blood vessels are injured. The platelets, the red blood cells, and the white blood cells make up about 50 percent of the total volume of the blood. The other 50 percent is plasma.

The plasma transports food, water, and other materials to the body cells. The plasma also carries away the cells' waste products.

All these parts of the blood are transported through the body by the **circulatory system** consisting of a pump and connecting tubes, or vessels. Perhaps the most important part of the circulatory system is the heart. The **heart** is a strong, muscular pump that lies near the center of the chest. It extends toward the left side of the body. In an adult, the heart is about the size of the adult's fist.

There are four chambers in the heart. The upper chambers are called the right **atrium** and the left atrium (plural, atria). The lower chambers are called the right and left **ventricles.** There is an opening from the right atrium to the right ventricle. There is also an opening from the left atrium to the left ventricle. In the openings, there are **valves,** or flaps, that allow the blood to flow in only one direction.

The pressure that sends the blood through the system is provided by rhythmical contractions of the heart muscles. These muscles are completely involuntary; that is, they operate without being instructed by the brain. All of us have felt or heard the pulse of the heartbeat. Normally the heart beats about 72 times per minute. The heartbeat results from the pumping action of the heart.

The other parts of the circulatory system are the arteries, veins, and capillaries. These are the tubes, or blood vessels, that carry the blood. The **arteries** carry the blood away from the heart, while the **veins** carry blood toward the heart.

Let us follow the path of the blood as it travels through the body. When blood returns to the heart from the cells by way of the veins, it enters the right atrium. The blood then is sent to the right ventricle and through arteries to the lungs. In the lungs, the blood takes on oxygen and releases carbon dioxide. When the blood returns to the heart from the lungs, it enters the left atrium, passes into the left ventricle, and is pumped into the large artery called the **aorta**.

The aorta branches into several smaller arteries through which the blood flows throughout the body. These smaller arteries finally end in a network of tiny capillaries. **Capillaries** are tiny blood vessels with very thin walls through which food, water, oxygen, and other materials in the blood flow to the cells. Cell waste materials also enter the bloodstream in the capillaries. The capillaries unite to form larger tubes that carry the blood back to the heart. These tubes are the veins.

There is a part of the circulation that takes the blood to the stomach and small intestines, where food is absorbed by the blood. The blood also flows through other organs, such as the liver and kidneys, where materials are removed. All parts of the body are helped by the flow of the blood in the circulatory system, and we could not live if this circulation were stopped for very long.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

blood
plasma
red blood cells
marrow
artery
capillary
hemoglobin
white blood cells
platelets
circulatory system
vein
heart
atrium
ventricle
valves
aorta

B. Write the letter of the correct answer on the line that precedes each statement.

_____ 1. The clear, watery fluid of the blood is called
(A) platelets (B) hemoglobin (C) plasma (D) capillaries

_____ 2. The clotting of blood is aided by
(A) red blood cells (B) platelets (C) hemoglobin (D) pus

_____ 3. The normal number of heartbeats per minute is about
(A) 31 (B) 72 (C) 181 (D) 107

_____ 4. The white blood cells attempt to rid the body of
(A) marrow (B) capillaries (C) plasma (D) harmful bacteria

_____ 5. The reddish color of the blood is from
(A) hemoglobin (B) platelets (C) plasma (D) marrow

_____ 6. Blood flows from the heart through
(A) marrow (B) veins (C) arteries (D) atria

_____ 7. Blood returns to the heart through the
(A) marrow (B) veins (C) arteries (D) ventricles

Lesson 3 - The Digestive System

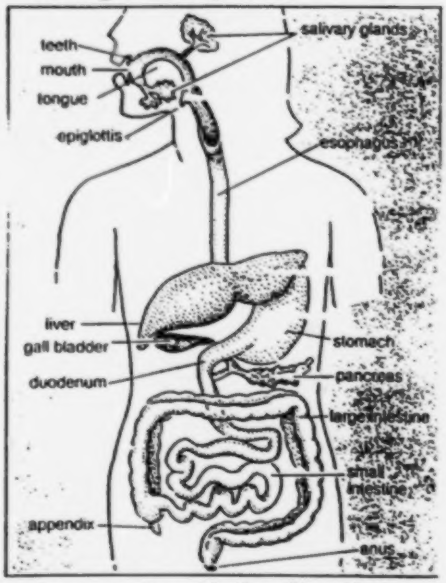
Have you ever thought about what happens to food after it is eaten? Many changes must be made in the food before it is usable by the body cells. The process that changes food into a form usable by cells is called **digestion.** Digestion and absorption of food in a human takes place in the **digestive system.**

The major part of the digestive system is the **alimentary canal**, which is the tube through which food travels in the body. The alimentary canal begins with the mouth, where food enters the body, and the canal ends with the **anus**, where undigested and waste materials leave the body. Between these two openings, food is digested.

Digestion is brought about by digestive enzymes found in the mouth, stomach, and the small intestine. **Digestive enzymes** are chemicals produced in the body that change the complex compounds in food to simple substances. The various types of enzymes act on different types of food in different parts of the digestive system.

Digestion begins in the mouth, where the teeth chop and grind the food into smaller particles. These particles are mixed by the tongue with **saliva**, a fluid produced by the **salivary glands** and containing an enzyme. The watery saliva moistens and softens the food so that it can be swallowed easily, and begins digestion of the food.

When food is swallowed, it passes into the **esophagus**, which is a tube that connects the mouth with the stomach. A little flap called the **epiglottis** automatically closes the top of the windpipe as we swallow. This prevents food from entering the windpipe leading to the lungs. The food then passes through the esophagus and into the stomach.



Food travels through the alimentary canal.

The food does not simply fall into the stomach. The muscular walls of the esophagus push a lump of food along by squeezing together behind the lump. This squeezing action is known as **peristalsis**. Peristalsis occurs in almost all parts of the alimentary canal and causes the movement of food through the alimentary canal.

In the stomach, the food is mixed with gastric juice that is produced by the stomach. **Gastric juice** is about 99 percent water and contains hydrochloric acid and several enzymes. The food in the stomach is changed into a thick liquid by means of the churning action of the stomach and the chemical action of the gastric juice.

After the food gradually takes on a liquid form, it is passed into the small intestine. The final stage of digestion and absorption of digested food into the blood takes place in the **small intestine.** The first ten inches of the small intestine are called the **duodenum**.

In the duodenum, bile is added to the food. **Bile** is produced in the **liver** and stored in the **gall bladder**. The **pancreas** adds **pancreatic juice** to the food. These fluids further break down the food and prepare it to be absorbed by the blood.

Before the digested food is able to pass into the blood, it must be diluted further. The small intestine adds enough juices to make the food very thin and watery. This liquid food is absorbed into the blood through the capillaries within the walls of the small intestine. These capillaries are located in finger like projections that extend inward from the lining of the small intestine. These thin-walled projections are called **villi**. The villi greatly increase the area that is exposed to the blood. By the time the food material has traveled the length of the small intestine, almost all the usable material has been absorbed by the blood.

The food material that is not digested or absorbed by the blood is sent on to the **large intestine**. The large intestine removes most of the water that was mixed with the food. The waste material that remains after the water is taken away is passed from the body through the anus.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

digestion
digestive system
alimentary canal
anus
digestive enzymes
gall bladder
villi

saliva
salivary glands
esophagus
epiglottis
peristalsis
pancreas
large intestine

gastric juice
small intestine
duodenum
bile
liver
pancreatic juice

B. Complete the following sentences by writing the correct term in each blank.

1. The tube through which food travels in the body is called the ____________ ________________.

2. The alimentary canal begins with the ______________________ and ends with the ___________________.

3. Digestive _________________ are chemicals produced in the body that change the complex compounds of the food to simple substances.

4. When food is swallowed, it passes into the ___________________ and is pushed on to the stomach by the squeezing action of the esophagus, called ______________________.

5. ______________________ are the finger like projections extending inward from the lining of the small intestine.

6. In the ______________________, bile is added from the _________________, and pancreatic juice is added from the ___________________.

7. The ___________ ____________________ remove most of the water from the food that was not digested or absorbed.

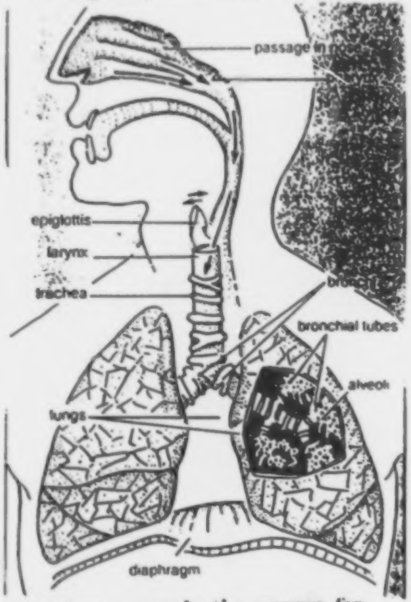
8. The ____________________ is the flap that prevents food from entering the windpipe.

Lesson 4 - The Respiratory System

We can live only a few minutes without oxygen. The oxygen used by the body is taken from the air by the **respiratory system**. The respiratory system consists of the lungs and the tubes that connect them with the outside air. The function of the respiratory system is respiration. **Respiration** really involves two processes - taking oxygen into the blood and removing carbon dioxide from the blood. The lungs perform both these processes during normal breathing.

Normal breathing occurs through the nose. In the lining of the nose, there are tiny hairs called **cilia** that filter some of the dust, pollen, and other particles from the air. There hairs grow through a sticky coating of **mucus**, which also helps to filter the air. This mucus carries away the undesired particles. Breathing through the mouth does not provide this filtering.

After air enter either the nose or the mouth, it passes into the throat cavity called the **pharynx**. From the pharynx, the air passes the **larynx**, or voice box, and travels down the **trachea**, or windpipe.



The lungs supply the oxygen for the blood to carry to the body cells.

The larynx is often called the Adam's apple. It consists mainly of several bands of tissue called **vocal cords.** There is an opening in the windpipe that allows air to pass over the vocal cords, causing them to vibrate and produce sound, or the voice. If you put your fingers lightly on your throat as you hum, you can feel the vibrations.

During normal breathing, the incoming air bypasses the larynx and travels on through the trachea. The trachea branches into two tubes, the **bronchi** which lead to the lungs. Within the lungs, the bronchi branch many times into the smaller **bronchia tubes.** The bronchia tubes branch into microscopic tubes called **bronchioles**.

The bronchioles open into clusters of microscopic air sacs, called **alveoli**, which are surrounded with capillaries. Oxygen from the air in the alveoli enters the bloodstream through the very thin walls of the capillaries. From the blood, carbon dioxide produced by the body cells enters the air in the alveoli.

The lungs are really a combination of millions of these alveoli. The outside of the lungs is covered with a protective coat, or membrane, called the **pleura**. This membrane protects the lungs from rubbing on the ribs or other parts of the chest when we breathe.

Beneath the lungs, there is a strong, flat muscle called the **diaphragm**, which separates the chest and abdominal cavities. Breathing in, or inhaling, is done by the downward motion of the diaphragm and the outward motion of the ribs. This motion increases the volume of the chest cavity and creates lower air pressure in the chest cavity. Air rushes in through the nose or mouth to equalize the pressure. Air is breathed out, or exhaled, from the lungs when the diaphragm moves upward and the ribs move inward, increasing the air pressure inside the chest cavity.

It is interesting to note the difference between inhaled and exhaled air. Inhaled air is about 21 percent oxygen, 78 percent nitrogen and less than 1 per cent carbon dioxide. Exhaled air contains about 16 percent oxygen, 78 percent nitrogen, and over 4 percent carbon dioxide. It is easy to see that we do not inhale pure oxygen and exhale pure carbon dioxide, as some people falsely believe.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

respiratory system
lungs
respiration
cilia
mucus
pharynx
larynx
trachea
vocal cords
bronchi
bronchial tubes
bronchioles
alveoli
pleura
diaphragm

B. Complete the following sentences by writing the correct term in each blank.

1. The ________________ is the voice box, and it is often called the Adam's apple.

2. The downward motion of the ______________ and the outward motion of the ______________ create lower air pressure inside the chest cavity.

3. The ______________ and the sticky ______________ on the lining of the nose filter many of the dust particles from the air that enters the nose.

4. The bronchial tubes branch off from the ________________ in the __________________.

5. Respiration involves taking ________________ into the blood and removing _______________ from the blood.

6. The lungs are composed of millions of tiny air sacs called ____________.

7. The ____________ cords are located in the larynx.

8. Inhaled air contains about ______ percent oxygen, ______ percent nitrogen, and less than 1 percent ____________ ____________.

9. Exhaled air contains about 16 percent ____________, ____________ percent nitrogen, and over ____________ percent carbon dioxide.

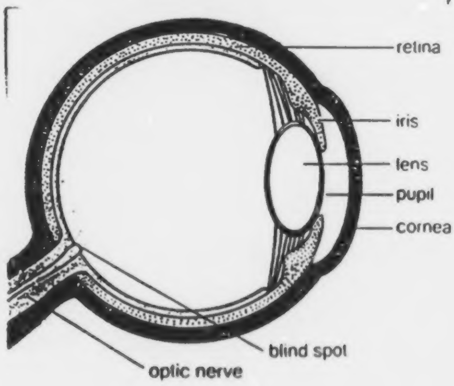
10. The ____________ is a protective coat that covers the lungs.

Lesson 5 - The Nervous System And The Eye

The human body depends upon the **nervous system** for many things, including communication, sight, touch, balance, and control. We would be sightless, soundless, and motionless without the nervous system. In fact, without the nervous system there would be no thinking or feeling.

The basic unit of the nervous system is the nerve cell, or **neuron**. The main part of the neuron is the **cell body**, which contains the nucleus and most of the cytoplasm. In addition, there are short, hair like extensions that reach out from the cell body. These extensions, or nerve fibers, look very much like branching tree limbs. They are called **dendrites**. There is also one long fiber called the **axon**.

The axon and dendrites end in a group of tiny, root like endings. The tiny endings are usually found in a muscle or in sensory organs such as the eyes. The axons and dendrites are part of a very complex network of neurons that are linked with the **brain** and the **spinal cords**.



The eye is a very important sense organ in the nervous system.

It takes only a very small fraction of a second for the nerve endings in the fingers to sense something hot and for muscles to draw the hand away. During that time, a nerve message, or impulse, is sent to the spinal cord. The spinal cord instantly sends back an impulse for muscles to move the hand away from the heat. This type of quick nerve action, without thinking and not involving the brain, is called a **reflex**.

When a reflex action occurs, several kinds of nerve cells are put into action. Two are sensory neurons and motor neurons. The **sensory neurons** carry the message about the feeling to the spinal cord. The spinal cord sends back along the **motor neurons** to muscles a message for movement. Other nerve actions involving the brain instead of the spinal cord occur constantly in the nervous system. Since nerve messages may travel at speeds of up to 400 feet per second, it does not take long for a message to travel through the nervous system.

The nervous system includes several important sense organs including the eyes. They are able to detect light and convert it into nerve messages. The nerve messages travel to the brain along the nerve fibers called the **optic nerve**. The brain interprets these messages as various forms of light. The inside of the back of the eye is lined with the nerve endings of the optic nerve. This layer of nerve endings is called the **retina**. There is a blind spot where the optic nerve joins the retina.

The retina might be thought of as being similar to a movie screen on which light is projected. Light enters the eye through the **pupil**, which is an opening in the colored portion of the eye, or the **iris**. The iris is covered with an outer protective, transparent layer called the **cornea**. Light passes through the cornea, enters the pupil, and passes through the transparent **lens**. The lens usually focuses a clear, sharp image on the retina.

If the image focused on the retina is not clear and sharp, there may be a defect in the eye. Two of the more common eye defects that can usually be corrected with glasses are **myopia**, or nearsightedness, and **hyperopia**, or farsightedness. A person who sees close objects clearly while distant objects appear fuzzy is said to be nearsighted. The condition of hyperopia occurs when near objects appear fuzzy and distant objects are seen clearly.

Another common defect occurs when the lens of an eye is irregular in curvature. The upper part of the lens may be curved more sharply than the bottom part. This condition is known as **astigmatism**. It is discovered when parts of an image appear clear, while other parts appear blurred.

Warnings of eye trouble may be headaches, blurred vision, eye soreness, excessive eye watering, and swelling around the eyes. If any of these conditions occur frequently, an eye examination from a qualified doctor is needed.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

nervous system
neuron
cell body
dendrites
lens
axon
brain
spinal cord
impulse
myopia
reflex
sensory neuron
motor neuron
optic nerve
hyperopia
retina
pupil
iris
cornea
astigmatism

B. Next to each term on the left, write the letter of the correct phrase on the right.

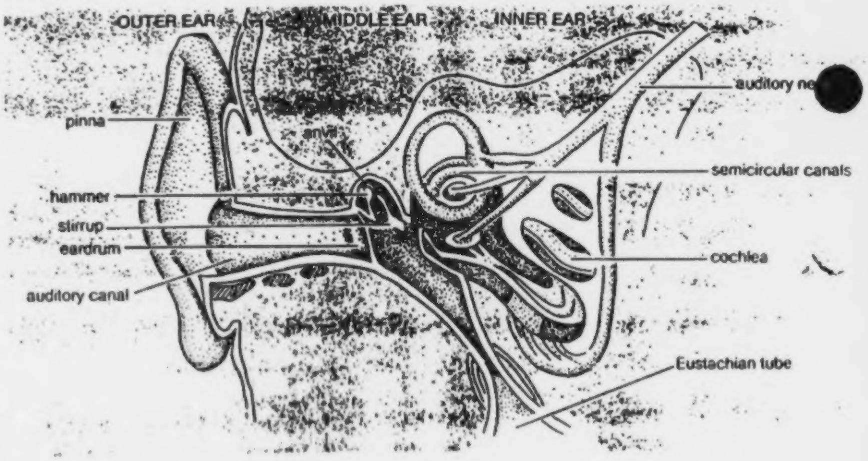
1. _____ cornea	a. nerve cell
2. _____ sensory neurons	b. opening in the iris
3. _____ motor neurons	c. layer of nerve endings in the back of the eye
4. _____ pupil	d. carry messages from the spinal cord or brain to muscles
5. _____ myopia	e. farsightedness
6. _____ retina	f. short, branching extensions of neuron cell body
7. _____ dendrites	g. transparent cover over the iris
8. _____ astigmatism	h. nearsightedness
9. _____ neuron	i. carry messages to the spinal cord or brain
10. _____ hyperopia	j. irregular curvature of the lens

Lesson 6 - The Ear

Hearing and sight may be our most important senses. They are senses that none of us would want to be without. Some animals rely upon their sense of hearing more than their sight. Hearing has an advantage over sight in that darkness does not reduce the ability to hear. We can hear in the air, under water, and in almost any place.

Sound is carried by vibrations, or sound waves. The ear changes sound waves into nerve impulses. Because sound waves are able to travel through most objects, we are able to hear something that happens on the other side of a closed door. If you were in a closed room and someone made a loud sound in a nearby room, you would probably be able to hear the sound. Sound waves would travel through the floor, the walls, and the air until they reached your ear. The ear would pick up the sound waves and conduct nerve impulses to the brain. The brain would record these nerve impulses as music, human speech, or some other familiar sound. This is the process that we call hearing.

The ear has many parts. The outer, visible part of the ear is called the **pinna.** When sound waves reach the pinna, they are directed into a tube called the **auditory canal**. The auditory canal leads to a membrane called the **eardrum**. The pinna and the auditory canal make up the **outer ear**.



The ear detects sound waves and changes them to nerve impulses that are sent to the brain.

The eardrum has a flexible center portion that moves in and out when sound waves strike it. In fact, it vibrates in the same way that the bass drum vibrates when struck.

The vibrations produced when sound waves strike the eardrum are conducted along a series of tiny bones. These bones are commonly called the **hammer**, the **anvil**, and the **stirrup**. These bones and the air-filled space around them make up the **middle ear.**

The middle ear is connected with the throat by the narrow tube, the **Eustachian tube**. The tube permits air to flow in and out of the middle ear and equalized air pressure on both sides of the eardrum. Rapid change in altitude, such as riding down in an elevator, often causes an uncomfortable feeling in the ear. This happens because air pressure pushing on the outside of the eardrum is greatly increased by the loss of altitude. By swallowing, the throat muscles open the Eustachian tube and allow the pressure to be equalized.

People with "colds" should be very careful when they blow their nose. By blowing too strongly, mucus may be forced through the Eustachian tube and into the ear. An infection may result that could cause serious damage to the ear. The mucus would also reduce the ability of the middle ear to relay vibrations.

Vibrations travel through the middle ear until they strike the membrane of the **inner ear**. This membrane vibrates similarly to the eardrum and transmits the vibrations to the **cochlea**.

The cochlea is a coiled canal that is filled with fluid. The vibrations in the fluid are changed to nerve impulses, which are relayed to the brain by the nerve fibers called the **auditory nerve**. The brain interprets these impulses as the various types of sound.

The inner ear also contains parts that give us our sense of balance. There are three semicircular canals that are filled with fluid. As the body or head moves, the fluid flows and causes impulses to be transmitted to the brain. These impulses bring about reflex actions that keep the body in a balanced position.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

pinna
auditory canal
eardrum
outer ear
hammer
anvil
stirrup
middle ear
Eustachian tube
inner ear
cochlea
auditory nerve
semicircular canals

B. Complete the following sentences by writing the correct term in each blank.

1. The two most important senses probably are ______________ and ______________.

2. Sound waves are changed into ______________________ during the hearing process.

3. The ______________ is the outer, visible part of the ear.

4. The tube that connects the middle ear with the throat is called the _________________________ tube.

5. The inner ear contains three __________________ that give us our sense of balance.

6. The auditory canal leads to a membrane called the ________________.

7. The hammer, anvil, and stirrup are located in the ____________________.

8. Vibrations in the fluid of the cochlea are converted to nerve impulses that are transmitted to the brain by the ____________________.

9. Sound is carried by ___________________, or sound waves.

10. You can equalize air pressure on the outside of the eardrum by _____________________.

Lesson 7 - The Reproductive System

Reproduction, or the production of offspring, ensures the survival of all species. In people, reproduction is made possible by the **reproductive system**.

The main functions of the adult female reproductive system are to produce **egg cells** and to provide a protective, nourishing place for a developing baby. The egg cells are produced by the two **ovaries.** At birth, an infant girl's ovaries already contain about a million microscopic egg cells, in immature form. During her adulthood, only about 400 of these immature egg cells will develop to maturity.

Egg cells do not begin to mature until a girl reaches **puberty**, the stage of sexual development when a child becomes an adult. After puberty begins, an egg cell in one of the ovaries matures about once each month. When the egg is mature, it is released from the ovary - a process called **ovulation**. Usually, only one mature egg cell is released each month, and the ovaries usually alternate ovulating each month.

Following ovulation, the mature egg cell moves into the **Fallopian tube** nearest the ovary that released the egg. If sperm cells are present in the Fallopian tube, **fertilization**, or union of the egg cell and a sperm cell, may occur shortly after ovulation. The egg cell, whether fertilized or not, eventually enter the uterus, or womb. The **uterus** is the organ in which a fertilized egg will develop into a baby.

The uterus looks like a small, upside-down pear in size and shape. But during **pregnancy,** or the period when a woman carries a developing baby, the uterus grows to many times its usual size. The strongest muscles in the human body are located in the walls of the uterus. During **labor**, these muscles can contract regularly for hours, and push the baby out of the mother's body.

Each month before ovulation, the soft lining of the uterus grows thicker and develops a rich blood supply. If a fertilized egg cells enters the uterus, it attaches to the thick uterus wall. The developing baby receives nourishment and gets rid of its wastes through the rich blood supply.

Usually, fertilization does not occur, and the unfertilized egg cell dies after a few days. About two weeks after ovulation, the thickened uterus lining breaks down and, with the extra blood supply, passes out of the body. This process is called **menstruation**, or the "period".

Following menstruation, the lining of the uterus begins to thicken again, and ovulation occurs about two weeks after the start of menstruation. The monthly cycle of menstruation and ovulation is called the **menstrual cycle**. If fertilization takes place, menstruation and ovulation do not occur during the pregnancy. The menstrual cycle begins at puberty and continues until approximately age 50.

The lower, narrow end of the uterus, called the **cervix** has a tiny hole in the center. The cervix joins the **vagina**, a tube that leads to the outside of the body. During menstruation, the tissues and fluid leave the body through the cervix and vagina. During birth, both the cervix and vagina expand tremendously, allowing passage of the baby out of the body.

The main functions of the adult male reproductive system are to produce **sperm cells** and to transfer them to the female reproductive system. Millions of sperm cells leave the male body during **ejaculation,** when a liquid containing sperm cells is released from the penis. Sperm cells are much smaller than egg cells. They have long "tails" that allow them to swim through the female reproductive tract.

The pair of organs called the **testicles**, or **testes**, continually produce sperm cells at the rate of 10 to 30 billion per month. Production of sperm cells begins at puberty and continues through adulthood. The testicles are contained in a protective sac of skin in the groin area.

The sperm cells are stored in two clusters of tiny, coiled tubes located beside the testicles. Just before ejaculation, the sperm cells are pushed through a pair of larger tubes called the **sperm ducts**. Along the way, thick liquids are added to the sperm cells. The mixture of liquid and sperm cells, called **semen**, enters a tube called the **urethra**. The urethra leads from the bladder and through the penis. Ejaculation is completed when the semen has been released through the urethra.

Urine from the bladder leaves the body through the urethra also. However, both semen and urine cannot flow through the urethra at the same time, and they never mix.

Exercises

A. On a separate sheet of paper, write a sentence using each term below.

reproductive system
egg cell
ovary
puberty
ovulation
Fallopian tube
fertilization
uterus
pregnancy
labor
menstruation
menstrual cycle
cervix
vagina
sperm cell
ejaculation
testicle
sperm duct
semen
urethra

B. Put a check in the box that has the same letter as the word or phrase that correctly completes each statement.

1. The release of mature egg cells from an ovary is
(A) ovulation (B) menstruation (C) fertilization (D) labor

2. The union of an egg cell and a sperm cell is
(A) menstruation (B) fertilization (C) ovulation (D) ejaculation

3. Sperm cells are produced by the two
(A) ovaries (B) sperm ducts (C) Fallopian tubes (D) testicles

4. During ejaculation, semen is released through the
(A) testicles (B) sperm ducts (C) ovaries (D) urethra

Answer Key

The Human Body

Lesson 1

1. anatomy 2. cell membrane, nucleus, cytoplasm
3. tissue, organs or organ systems 4. metabolism
5. physiology

Lesson 2

1. c; 2. b; 3. b; 4. d; 5. a; 6. c; 7. b.

Lesson 3

1. alimentary canal 2. mouth, anus 3. enzymes
4. esophagus, peristalsis 5. villi
6. duodenum, liver or gall bladder, pancreas 7. large intestine
8. epiglottis

Lesson 4

1. larynx 2. diaphragm, ribs 3. cilia, mucus
4. bronchi, lungs 5. oxygen, carbon dioxide 6. alveoli
7. vocal 8. 21, 78, carbon dioxide 9. oxygen, 78,4
10. pleura

Lesson 5

1. g; 2. i; 3. d; 4. b; 5. h; 6. c; 7. f; 8. j; 9. a; 10. e.

Lesson 6

1. hearing, sight 2. nerve impulses 3. pinna
4. Eustachian 5. semicircular canals 6. eardrum
7. middle ear 8. auditory nerve 9. vibrations
10. swallowing

Lesson 7

1. a; 2. b; 3. d; 4. d.

Judgement and Comprehension
in
Practical Nursing Situations

Part IV of the PSB Exam assesses the student's ability to make judgements in practical nursing situations. These questions, for the most part, look at the student's interpersonal and common sense skills when working with patients, co-workers and the public. Though some questions require field-related knowledge, most do not and, with sensible consideration, can be answered by anyone.

The following anecdotes have been developed to acquaint your student with the nature of these judgement questions.

Judgement & Comprehension in Practical Nursing Situations

Questions and Answers

1. While covering the Nurse's Desk an irate visitor demands to know why patient X (who happens to be your patient) has no water at his table side. You respond by

A) apologizing and hurriedly leaving the desk to take water to the patient.

B) pleasantly saying, "If the patient wants more water, all he needs to do is buzz and we'll gladly bring him more."

C) saying, "He had water last time I checked. I'll send a nurse to him with water right away."

D) saying, "I'm sorry. Would you like to take him some water? I'll show you where it is."

Correct Answer C. Answer A is wrong since your abrupt departure implies guilt. Answer B is wrong since you are tacitly placing blame on the patient. Answer D is wrong since you are putting the nursing staff's responsibility onto a non-staff person.

---

2. During visiting hours, you are attending to your patient who is recovering from recent surgery. A visitor arrives who, for whatever reason, your patient does not want to see. The patient demands that you tell the visitor to leave. You should

A) suggest that the visitor return when the patient is feeling better.

B) say to the patient, "I think you two have something to work out" and quietly leave the room.

C) allow the visitor to enter but report the patient's agitated disposition to the attending physician.

D) say nothing and quietly leave the room.

Correct Answer C

Answer B is incorrect because your suggestion is an intrusion into their personal affair. Answer C is incorrect since you are ignoring the patient's interest. Answer D is incorrect because you are evading the problem rather than addressing it.

3. Two patients share a room. One is quiet and wants privacy and the other wants to talk. To maintain her privacy, the quiet one has pulled the curtain around her bed. When you come into the room, you find that the talkative patient is pulling aside the others curtain in order to socialize. You should

A) suggest to the talkative patient that her neighbor had closed the curtain for privacy and gently close it again. Afterwards check with the supervisor about a possible change in room assignments for the incompatible pair.

B) tell the talkative patient that her behavior is rude and ask her to return to her bed.

C) politely ask the talkative patient to return to her bed and engage her in small talk.

D) make the best of the situation and genially draw the quiet patient into conversation with the talkative patient.

Correct Answer A

Answer B is incorrect because it is not your place to admonish a patient on his or her social behavior. Answer C is incorrect since you evade the problem rather than address it. Answer D is incorrect since you ignore the quiet patient's desire for privacy.

---

4. On your first day as a newly employed practical nurse, you should be eager to . . .

A) prove your expertise.

B) demonstrate cooperativeness.

C) align yourself with a more experienced nurse.

D) keep quiet and listen; after all, you're the "new kid on the block."

Correct Answer B

Answer A is incorrect since it implies "you have something to prove." Answer C is incorrect since it implies you haven't the confidence to make your own way. (NOTE: As a new LPN you will be matched with a veteren nurse for training, but this match is made by supervising staff.) Answer D is incorrect because keeping quiet is not necessarily wise. What if you're confused or need further explanation? Surely you should ask.

College Placement
for
Math & English

The scope and nature of college placement tests in math and English vary among institutions. Some colleges use standardized tests like the Multiple Assessment Programs and Services of the College Board and others use tests developed by the math and English departments within their institution. These tests are used for academic advising and course placement in math and English.

Math

Although the scope of the typical English exam can be addressed by the materials provided by most adult education agencies, the same is not true of the math exam which can measure students' skill levels through advanced algebra and trigonometry. Publishers of adult education texts do not typically cover advanced algebra or trigonometry. Likewise, teachers of adult education are not required to possess expertise in these areas. Finally, a student without background in advanced algebra or trigonometry could not reasonably expect to learn this level of math in the time most students allot for a brush-up (one month, from my experience). For these reasons, the review presented here spans basic math, geometry and algebra.

Selective Bibliography for Math Review

Number Power (1-6)
Illinois: Contemporary Books, Inc.
Number Power Review (Whole numbers to algebra)
Illinois: Contemporary Books, Inc.

English

The typical English placement exam will measure the student's skills in spelling; vocabulary, punctuation, grammar and diction. Since these subjects are common to other exams as well, materials for review of these areas can be found in the following study guides contained in this manual: Spelling; Vocabulary and English Review.

MATHEMATICS REVIEW

The review of mathematics in this section and the numerical ability tests include the following: basic quantitative problems involving addition, subtraction, multiplication, and division; calculations including decimals, fractions, percentages, and measurements; basic operations in algebra and geometry; and quantitative comparison question-types. Throughout the exercises, emphasis is placed on verbal problems in order to prepare you for the interpretations and methods required for problem-solving. The explanatory answers and problem solutions provide a variety of opportunities to review or to learn the numerical processes included on the prenursing examinations.

Study the guidelines listed below, which provide the major mathematics concepts needed for successful performance on your examination.

Guidelines for Mathematical Calculations

1. **Whole numbers** have place-value based on units of ten (decimal system). Therefore, it is extremely important that all whole numbers, including zeros, are lined up correctly in columns when adding and subtracting.

2. The **average** of a set of given numbers is the sum of the given numbers divided by the number of given numbers.

   Example:

   The average of the numbers 10, 14, 17, and 23 is

   $$\frac{10 + 14 + 17 + 23}{4} = 16$$

3. Use division to determine the value of one quantity when the value of several quantities is given. (All quantities have the same value).

   Example:

   Three loaves of bread cost $2.40. How much will one loaf cost?

   Divide 3 into $2.40; the answer is 80 cents.

4. Use multiplication to determine the value of several quantities with the same value if the value of one quantity is given.

Example:

If one loaf of bread costs 80 cents, how much will three loaves cost? Multiply 3 times 80 cents; the answer is \$2.40.

5. The **square** of a number is the product obtained when a number is multiplied by itself.

   Example:

   $4^2 = 4 \times 4 = 16$

6. The **square root** ($\sqrt{}$) of a given number is the number that yields the given number when multiplied by itself.

   Example:

   $\sqrt{16} = 4$, since $4 \times 4 = 16$

7. The square of any whole number is called a **perfect square**. Conversely, the square root of a perfect square is a whole number.

   Example:

   $4^2 = 16$ (a perfect square); thus $\sqrt{16} = 4$.

8. If a number is not a perfect square, you can approximate the square root of the number when a calculator is not available. One method of approximating the square root of a number is given below.

   Example:

   Approximate the square root of 90 ($\sqrt{90}$).

   1. Estimate the square root of the given number. Since 90 is between 81 and 100, the square root of 90 will be between 9 and 10. A possible estimate is 9.30.
   2. Divide the given number by the estimated square root.

      $90 \div 9.30 = 9.68$

   3. Find the average of the resulting quotient and the estimated square root.

      $\dfrac{9.68 + 9.30}{2} = 9.49$ (9.49 is the first approximation for $\sqrt{90}$.)

   4. Divide the given number by the average (first approximation) found above.

      $90 \div 9.49 = 9.48$

   5. Find the average of the divisor (first approximation) and the quotient found in step 4.

      $\dfrac{9.49 + 9.48}{2} = 9.485$

      The approximate square root of 90 is 9.485.

   6. This process may be repeated to get a more accurate estimate of the square root of a number.

9. To add or subtract **radicals** (numbers expressed as square roots), the **radicands** (numbers under the radical) must be the same.

   Example:

   $4\sqrt{12} + 3\sqrt{12} = 7\sqrt{12}$

   If the radicands are *not* the same, simplify the radicals and then see if they can be combined.

   Example:

   $$\begin{aligned} & 3\sqrt{12} - 8\sqrt{3} \\ &= 3\sqrt{4 \times 3} - 8\sqrt{3} && \text{(12 can be factored as } 4 \times 3.) \\ &= 3 \times 2\sqrt{3} - 8\sqrt{3} && \text{(Take } \sqrt{4}\text{, which equals 2.)} \\ &= 6\sqrt{3} - 8\sqrt{3} \\ &= -2\sqrt{3} \end{aligned}$$

10. To reduce fractions to lowest terms, factor the numerator and denominator and cancel the common factors.

    Example:

    $$\frac{35}{55} = \frac{7 \times 5}{11 \times 5} = \frac{7}{11}$$

11. When subtracting decimals, make sure both numbers have the same number of decimal places. If they don't, add zeros to the number with fewer decimal places until it has the same number of decimal places as the other number.

    Example:

    Subtract 2.715 from 4.

    Note: When adding and subtracting decimals, the numbers should be lined up so decimals are under each other.

    $$\begin{array}{r} 4.000 \\ -2.715 \\ \hline 1.285 \end{array}$$

12. When multiplying, be certain to include all zeros and keep the columns in line.

    Example:

    $$\begin{array}{r} 3600 \\ \times \quad 507 \\ \hline 25200 \\ 0000 \\ 18000 \\ \hline 1,825,200 \end{array}$$

13. When a decimal is changed to a fraction, the digits after the decimal point become the numerator. The denominator is 1 and as many zeros as there are decimal places. (The denominator can also be determined by raising 10 to a power. The power is the number of decimal places in the number.)

BEST COPY AVAILABLE

Example:

$0.540 = \frac{540}{1000}$ (Note that $1{,}000 = 10^3$. There are 3 decimal places in the number so the power is 3.)

14. A **polygon** is a simple closed plane figure made up of line segments.

    a. Polygons with three sides are called **triangles**.

    If the lengths of two sides of a triangle are equal, the triangle is called an **isosceles** triangle.

    When all three sides of a triangle have the same length, the triangle is called an **equilateral** triangle.

    b. Polygons with four sides are called **quadrilaterals**.

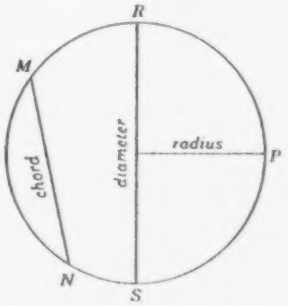
    A **square** is a quadrilateral with all four sides equal.

    A **rectangle** is a quadrilateral with opposite sides equal.

    c. To find the **perimeter** (P) of a figure, add the lengths of all its sides.

Triangle	P = sum of the three sides	$P = a + b + c$
Rectangle	$P = 2 \times$ Length + $2 \times$ Width	$P = 2L + 2W$
Square	$P = 4 \times S$, where S = length of each side.	
Circle	The circumference (C) is the distance around a circle. The circumference of a circle is equal to $\pi \times$ the diameter: $C = \pi \times d$.	

Point O is the center of the given circle. Points P, R, and S are points on the circle.



A **chord** of a circle is any segment with its two end points on the circle. $\overline{MN}$ is a chord of the given circle.

A **radius** of a circle is a segment from the center of the circle to any point on the circle. $\overline{OP}$ is a radius of the circle.

A **diameter** of a circle is a chord that passes through the center of a circle. $\overline{RS}$ is a diameter of the given circle.

All radii of a circle have the same length. A diameter of a given circle is always twice the radius of the circle.

Example: If the length of radius $\overline{OP}$ = 7 cm, the diameter $\overline{RS}$ = 14 cm.

15. a. To find the **area** (A) of plane figures:

Square	$A = (\text{side})^2$	$A = S^2$
Rectangle	$A = \text{Base} \times \text{Height}$, or	$A = L \times W$
Triangle	$A = \frac{1}{2}\,\text{Base} \times \text{Height}$, or	$A = \frac{1}{2}\,bh$
Circle	$A = \pi \times (\text{radius})^2$, or	$A = \pi r^2$

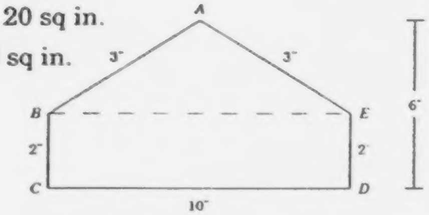
b. The **areas of other polygons** may be found by dividing the polygon into nonoverlapping triangles and/or quadrilaterals (squares, rectangles) and then adding the areas of the triangles and quadrilaterals.

Nonoverlapping triangles and quadrilaterals may be obtained by drawing diagonals of the polygon. A **diagonal** of a polygon is a line segment joining two nonconsecutive vertices of a polygon. $\overline{BE}$ is a diagonal of polygon ABCDE.

Example: Given polygon ABCDE with the measurements indicated, draw diagonal $\overline{BE}$ to divide the polygon into a triangle, △BAE, and a rectangle, BEDC.

Area of △BAE = $1/2 \times 10 \times 4 = 20$ sq in.

Area of ▭BEDC = $2 \times 10 = 20$ sq in.

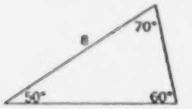


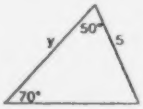
Since 20 + 20 = 40, the area of polygon ABCDE = 40 sq in.

16. **Similar triangles** have the same shape. The angles of one similar triangle are equal to the angles of the other. The ratios of corresponding sides of similar triangles are equal.

Example: The two given triangles are similar (measures of corresponding angles are equal).

$$\frac{8}{x} = \frac{y}{5}$$





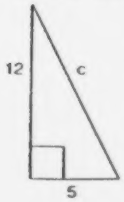
17. A right triangle is a triangle with a right angle. The side of the triangle that is opposite the right angle is called the **hypotenuse**.

Pythagorean Theorem: The square of the hypotenuse of a triangle is equal to the sum of the squares of the other two sides.

$$c^2 = a^2 + b^2$$

Example: Find the hypotenuse of the right triangle given below:

The two sides of the triange are 5 and 12. The hypotenuse (c) can be found with the use of the Pythagorean theorem.



$c^2 = 5^2 + 12^2 = 25 + 144 = 169$

$c^2 = 169$ (To find c, take the square root of 169)

$c^2 = 13$

18. **Parallel** lines are two lines that do not intersect (have no points in common). The slopes of two parallel lines are equal.

    Perpendicular lines are two lines that intersect at right angles. The slopes of two perpendicular lines have a product of -1.

19. A **ratio** is the comparison of two numerical quantities by division.

    Example A box contains 3 red balls and 2 blue balls. The ratio of blue to red balls in the box is 2 to 3 or 2/3.

20. A **proportion** is a statement that two ratios are equivalent.

    Example The ratio of 4 to x is equivalent to the ratio of 5 to 10.

    $$\frac{4}{x} = \frac{5}{10}$$

    a. **Direct proportions**—One quantity increases (↑) or decreases (↓) as the other increases or decreases. In other words, the direction of the changes is the same for both factors. (x increases as y increases or x decreases as y decreases.)

    Example: (Increase:)

    One orange sells for 15 cents. How much will six oranges cost?

    $$\frac{\text{1 orange}}{15¢} = \frac{\text{6 oranges}}{y¢}$$

    Cross multiply: $1y = 6 \times 15$ $y = 90¢$

    Example: (Decrease:)

    Six oranges cost 90 cents. How much would one orange cost?

    $$\frac{\text{6 oranges}}{90¢} = \frac{\text{1 orange}}{y¢}$$

    Cross multiply: $6y = 90¢$ $y = 15¢$ (Divide both sides by 6.)

    b. **Inverse proportions**—As one quantity increases (↑), another quantity decreases (↓), and vice versa. In other words, the direction of the changes is opposite. As x increases y decreases; or as x decreases, y increases.

    Example: A 5-pound bag of dog food lasts one week when the dog is given 2 servings per day. How long would this bag last if the dog were to receive 3 servings per day?

    $\frac{3}{2} = \frac{7}{y}$ $3y = 14$ $y = 4.6$

    (As the number of meals increases, the number of days the dog food lasts decreases).

21. To find a percentage increase or percentage decrease in a verbal problem, write a fraction with the amount of increase or decrease as the numerator and the original amount as the denominator. Then change fraction to percentage.

22. To determine discount in verbal problems, change the percentage to a fraction or decimal, multiply by the original cost, and deduct this amount from the original cost.

23. **For verbal problems dealing with commission and taxes, multiply the total value of the goods or services by the percentage of tax or commission.**

24. For **operations with signed numbers** (+ or –):

Addition

- For numbers with the same sign, add and keep the same sign in the answer.
- For numbers with different signs, subtract and give the answer the sign of the higher number.

Subtraction

- Combine the two signs of the bottom number (taking the subtraction sign as a negative sign, [– and – = +] [– and + = –]. Then use the rules for addition.

Examples: $-4-(-2)=-4+2=-2$

$-4-(+2)=-4-2=-6$

Multiplication

- The product of an odd number of negative numbers is negative.
- The product of an even number of negative numbers is positive.

Examples: $(-3)(-2)(-5)=-30$

$(-4)(-2)(-3)(-5)=90$

Division

- If the two numbers have the same sign, the answer is positive; if otherwise, it is negative.

25. For **literal expressions** (problems with letters instead of numbers) use the same processes as you would for numbers.

Example: How many inches are in y yards and x feet?

$y\text{ yd.}\times\frac{36\text{ in.}}{\text{yd.}}=36y\text{ in.}\quad x\text{ ft.}\times\frac{12\text{ in.}}{\text{ft.}}=12x\text{ in.}$

26. Problems involving **metric** measurements (other than conversions within the metric system) are solved using the same techniques as problems with English measurement units.

The basic metric units of measure are:

Length–Meter Weight–Gram
Volume–Liter Temperature–Celsius

27. A **prime number** is any whole number other than 0 or 1 that is only divisible by itself and 1.

Example: 17 is a prime number since it is only divisible by 1 and 17.

28. The symbols < and > are used to represent the inequalities "less than" and "greater than." Various statements of inequality are expressed by the following:

a. $a<b$ means a is less than b.
$7<12$ 7 is less than 12.

b. $a\leq b$ means a is either less than or equal to b.
$5\leq 9$ 5 is less than or equal to 9.

c.	$a > b$ means $18 > 14$	a is greater than b. 18 is greater than 14.
d.	$a \geq b$ means $3 \geq 3$	a is either greater than or equal to b. 3 is greater than or equal to 3.
e.	$a < b \leq c$ means $-1 < 3 \leq 5$ $2 \leq x < 5$	a is less than b and b is less than or equal to c. -1 is less than 3 and 3 is less than or equal to 5. x is a number that is greater than or equal to 2 and is less than 5.

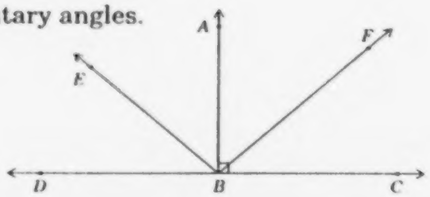
29. Units of measurement for angles are called **degrees**.
An **acute angle** has a measure that is less than 90°.
A **right angle** has a measure of exactly 90°.
(Perpendicular lines form right angles.)
An **obtuse angle** has a measure that is greater than 90°.
Two angles are **complementary** if the sum of their measures is 90°.
Two angles are **supplementary** if the sum of their measure is 180°.
If the exterior sides of a pair of adjacent angles form a straight line, the two adjacent angles are supplementary.

Examples: If $\overrightarrow{AB} \perp \overleftrightarrow{DC}$ ($\overrightarrow{AB}$ is perpendicular to $\overleftrightarrow{DC}$), then

$\angle$ ABF and $\angle$ FBC are complementary angles.
($\angle$ ABF and $\angle$ FBC = 90°)

$\angle$ EBD and $\angle$ EBC are supplementary angles.
($\angle$ EBD and $\angle$ EBC = 180°)

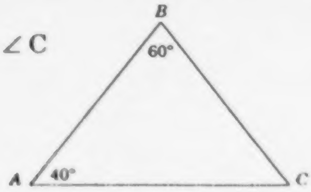
$\angle$ FBC is an acute angle.



30. The sum of the measures of the three angles of a triangle is 180°. If the measures of two angles of a triangle are given, the measure of the third angle can be found by subtracting the sum of the measures of the two known angles from 180°.

Example: If $\angle A = 40°$ and $\angle B = 60°$, then $\angle C$

$= 180° - (\angle A + \angle B)$
$= 180° - (40° + 60°)$
$= 180° - 100°$
$= 80°$



31. The total degree measure of a circle is 360°.

a. A **central angle** of a circle is an angle whose vertex is the center of the circle. If a central angle represents $1/n$ of a circle, the measure of the central angle is $1/n \times 360°$.

Angle $\angle$ AOB is a central angle in the circle below.

b. A **minor arc** of a circle consists of two points A and B where the sides of a central angle intersect the circle plus all points of the circle that lie in the interior of the central angle.

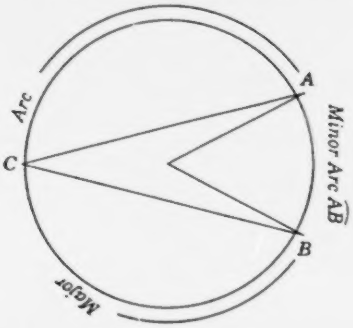
The minor arc $\widehat{AB}$ is indicated in the given circle.

c. A **major arc** of a circle consists of points A and B and all points on the circle that lie in the exterior of the central angle.

The major arc $\widehat{AB}$ is indicated in the circle below.

d. An **inscribed angle** of a circle is an angle whose vertex is on the circle and whose rays intersect the circle in two points different from the vertex. The measure of an inscribed angle equals one-half the measure of its intercepted arc.

∠ ACB is an inscribed angle of the given circle. The measure of ∠ ACB is one-half the measure of the central angle, ∠ AOB.



32. **Defined functions**. Certain questions may include a special sign such as "*" or "#" that is defined for you. The sign tells you to perform a specific function or operation. This kind of problem tests your ability to learn and apply a new concept.

Example: For all numbers, $a * b = \frac{a}{b} + 2$. What is $6 * 3$?

$$\begin{aligned} 6 * 3 &= \frac{6}{3} + 2 \\ &= 2 + 2 \\ &= 4 \end{aligned}$$

Answer Sheet Mathematics

TEST 1

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ

TEST 2

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ

TEST 3

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ

TEST 4

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ
21. Ⓐ Ⓑ Ⓒ Ⓓ
22. Ⓐ Ⓑ Ⓒ Ⓓ
23. Ⓐ Ⓑ Ⓒ Ⓓ
24. Ⓐ Ⓑ Ⓒ Ⓓ
25. Ⓐ Ⓑ Ⓒ Ⓓ
26. Ⓐ Ⓑ Ⓒ Ⓓ
27. Ⓐ Ⓑ Ⓒ Ⓓ
28. Ⓐ Ⓑ Ⓒ Ⓓ
29. Ⓐ Ⓑ Ⓒ Ⓓ
30. Ⓐ Ⓑ Ⓒ Ⓓ
31. Ⓐ Ⓑ Ⓒ Ⓓ

BEST COPY AVAILABLE

MATHEMATICS TEST 1

15 Minutes 20 Questions

Directions: *Each problem in this test involves a certain amount of logical reasoning and thinking on your part, besides simple computations, to help you find the solution. Read each problem carefully and choose the correct answer from the four choices that follow. Blacken the corresponding space on your answer sheet.*

1. Find the interest on $25,800 for 144 days at six percent per annum. Base your calculations on a 360-day year.

   (A) $619.20
   (B) $619.02
   (C) $691.02
   (D) $691.20

2. Arthur can shovel snow from a sidewalk in 60 minutes and Jack can do it in 30 minutes. How many minutes will it take them to do the job together?

   (A) 90
   (B) 15
   (C) 30
   (D) 20

3. The visitors' section of a courtroom seats 105 people. The court is in session six hours per day. On one particular day, 485 people visited the court and were given seats. What is the average length of time spent by each visitor in the court? Assume that as soon as a person leaves his seat it is immediately filled and that at no time during the day is one of the 105 seats vacant. Express your answer in hours and minutes.

   (A) 1 hour 20 minutes
   (B) 1 hour 18 minutes
   (C) 1 hour 30 minutes
   (D) 2 hours

4. If copy paper costs $14.50 per ream and a five percent discount is allowed for cash, how many reams can be purchased for $690 cash? Do not round off cents in your calculations.

   (A) 49 reams
   (B) 60 reams
   (C) 50 reams
   (D) 53 reams

5. How many hours are there between 8:30 A.M. today and 3:15 A.M. tomorrow?

   (A) $17\frac{3}{4}$ hours
   (B) $18\frac{3}{4}$ hours
   (C) $18\frac{2}{3}$ hours
   (D) $18\frac{1}{2}$ hours

6. How many days are there from September 19 to December 25 (*inclusive*)?

   (A) 98 days
   (B) 96 days
   (C) 89 days
   (D) 90 days

7. A clerk is requested to file 800 cards. If he can file cards at the rate of 80 cards an hour, the number of cards remaining to be filed after seven hours of work is

   (A) 40
   (B) 240
   (C) 140
   (D) 260

8. If your monthly electricity bill increases from $80 to $90, the percentage of increase is, most nearly,

   (A) 10 percent
   (B) $11\frac{1}{9}$ percent
   (C) $12\frac{1}{2}$ percent
   (D) $14\frac{1}{7}$ percent

9. If there are 245 sections in a city containing five boroughs, the average number of sections for each of the five boroughs is

(A) 50 sections
(B) 49 sections
(C) 47 sections
(D) 59 sections

10. If, in that same city, a section has 45 miles of street to plow after a snowstorm and nine plows are used, each plow will cover an average of how many miles?

(A) 7 miles
(B) 6 miles
(C) 8 miles
(D) 5 miles

11. If a crosswalk plow engine is run five minutes a day for ten days in a given month, how long will it run in the course of this month?

(A) 50 minutes
(B) $1\frac{1}{2}$ hours
(C) 1 hour
(D) 30 minutes

12. If the department uses 1500 men in manual street cleaning and half as many more to load and drive trucks, the total number of men used is

(A) 2200
(B) 2520
(C) 2050
(D) 2250

13. If an inspector issued 182 summonses in the course of seven hours, his hourly average of summonses issued was

(A) 23 summonses
(B) 26 summonses
(C) 25 summonses
(D) 28 summonses

14. If, of 186 summonses issued, 100 were issued to first offenders, then there were how many summonses issued to other than first offenders?

(A) 68
(B) 90
(C) 86
(D) 108

15. A truck going at a rate of 40 miles an hour will reach a town 80 miles away in how many hours?

(A) 1 hour
(B) 3 hours
(C) 2 hours
(D) 4 hours

16. If a barrel has a capacity of 100 gallons, how many gallons will it contain when it is two-fifths full?

(A) 20 gallons
(B) 60 gallons
(C) 40 gallons
(D) 80 gallons

17. If a monthly salary of $3000 is subject to a 20 percent tax, the net salary is

(A) $2000
(B) $2400
(C) $2500
(D) $2600

18. If $1000 is the cost of repairing 100 square yards of pavement, the cost of repairing one square yard is

(A) $10
(B) $150
(C) $100
(D) $300

19. If a woman's base pay is $3000 per month, and it is increased by a monthly bonus of $350 and a seniority increment of $250 this month, her total salary for the month is

(A) $3600
(B) $3500
(C) $3000
(D) $3700

20. If an annual salary of $21,600 is increased by a bonus of $7200 and by a service increment of $1200, the total pay rate is

(A) $29,600
(B) $39,600
(C) $26,900
(D) $30,000

Answer Key

1. **A**
2. **D**
3. **B**
4. **C**
5. **B**
6. **A**
7. **B**
8. **C**
9. **B**
10. **D**
11. **A**
12. **D**
13. **B**
14. **C**
15. **C**
16. **C**
17. **B**
18. **A**
19. **A**
20. **D**

Explanatory Answers

1. **(A)** *Interest = Principal × Rate × Time*

Note: 6% = 0.06

144 days $= \frac{144}{360}$ year

$$\begin{aligned} I &= P \times R \times T \\ &= \$25{,}800 \times 0.06 \times \frac{144}{360} \\ &= \frac{\$222{,}912}{360} \\ &= \$619.20 \end{aligned}$$

2. **(D)** Let n = number of minutes in which they can do the job together. Arthur can do $\frac{1}{60}$ of the job in one minute, so in n minutes he can do $\frac{n}{60}$ of the job. Jack can do $\frac{1}{30}$ of the job in one minute and $\frac{n}{30}$ of the job in n minutes. Together, in n minutes they can do the complete job.

$$\frac{n}{60} + \frac{n}{30} = 1$$

$n + 2n = 60$ multiplying both sides by 60 (the lowest common denominator)

$3n = 60$ combine like terms

$n = 20$ divide by 3

They can do the job together in 20 minutes.

3. **(B)** Total seats = 105
Total time = 6 hours
Total people involved = 486.

105 seats × 6 hours =
630 seating hours

To find the average seating time, divide

630 ÷ 485 = 1.3 hours

Now change the 0.3 hours to minutes (1 hour = 60 minutes).

$$0.3\ \cancel{\text{hour}} \times \frac{60 \text{ minutes}}{1\ \cancel{\text{hour}}}$$

= 18 minutes

The amount is 1 hour 18 minutes.

4. **(C)** Paper per ream = \$14.50
Discount = 5% or 0.05
Total cash = \$690.00

First, find the discount on the paper per ream when paying cash.

\$14.50 × 0.05 = 0.725 cents

Our price per ream is \$14.50 − 0.725 = \$13.775. Given \$690 to spend, divide to find how much paper can be purchased.

\$690.00 ÷ \$13.775/ream = 50

50 reams for \$688.75

5. **(B)** Use simple logic on this problem.

From	*To*		
8:30 A.M. →	8:30 P.M.	=	12 hours
8:30 P.M. →	3:30 A.M.	=	7 hours
	Total	=	19 hours

But this is 15 minutes too much.

Note: Change one of the hours to minutes—1 hour = 60 minutes.

45 minutes = $\frac{45}{60}$ hours or $\frac{3}{4}$ hours.

18 hours 60 minutes
− 15 minutes
18 hours 45 minutes

18 $\frac{3}{4}$ is the total number of hours.

6. **(A)** Again, use logic.

Month	*Number of days/month*	
September	from 19 to 30	12 days
October	31 days	31 days
November	30 days	30 days
December	from 1 to 25	25 days
		98 days

Note: Remember that 19 September and 25 December are included.

Total = 98 days inclusive

7. **(B)** Total to be filed = 800 cards
Rate cards can be filed = 80 cards per hour

How many cards were filed in the first seven hours?

7 × 80 = 560 cards were filed.

Subtract to find the remaining cards to be filed.

800 − 560 = 240

240 cards remain unfiled.

8. **(C)** From \$80 to \$90 there is a \$10 increase; the percentage of increase is found by dividing the amount of increase by the original amount:

$10 \div 80 = 0.125$ or $12\frac{1}{2}\%$

Note: $0.125 = 12.5\%$ or $12\frac{1}{2}\%$

Percentage of increase = $12\frac{1}{2}\%$

9. **(B)** To find the *average* number of sections per borough, divide:

245 sections ÷ 5 boroughs = 49

49 sections/borough

10. **(D)** Total miles = 45
Number of plows = 9

To find the *average* number of miles, divide:

45 miles ÷ 9 plows = 5 miles/plow.

Average = 5 miles

11. **(A)** Total time per day = 5 minutes
Total days per month = 10 days
Total time per month =

$$5\ \frac{\text{minutes}}{\cancel{\text{day}}} \times 10\ \frac{\cancel{\text{days}}}{\text{month}} = 50$$

50 minutes/month

12. **(D)** Total number
for street cleaning = 1500
Half that number
load and drive = + $\underline{750}$
2250

2250 men used

13. **(B)** Total summonses in seven hours = 182

To find the *average* number of summonses per hour, divide:

182 summonses ÷ 7 hours = 26

Average = 26 summonses/hour

14. **(C)** Total issued = 186
Subtract:
First offenders = −$\underline{100}$
Other-than-first offenders = 86

15. **(C)** If it takes one truck one hour to go 40 miles, it will take two hours to go 80 miles.

$$2\ \cancel{\text{hours}} \times 40\ \frac{\text{miles}}{\cancel{\text{hour}}} = 80 \text{ miles}$$

16. **(C)** If the total capacity is 100 gallons, then

$$\frac{2}{5} \text{ of } 100 = \frac{2}{5} \times 100 = \frac{200}{5} = 40 \text{ gallons}$$

17. **(B)** Total salary = \$3000
Tax = 20% or .20

First, find the amount of the 20% tax by multiplying:

\$3000 − .20 = \$600

Now subtract the tax from the salary to find the net:

\$3000 − \$600 = \$2400

\$2400 = net pay

18. **(A)** Total cost = \$1000
Total square yards = 100

Find the cost per square yard by dividing:

\$1000 ÷ 100 square yards = \$10

\$10/square yard

19. **(A)** Base pay = \$3000
Bonus = + 350
Sr. Increment + $\underline{250}$
Total pay = \$3600

20. **(D)** Annual salary = \$21,600
Bonus = 7200
Increment = $\underline{1200}$
Total pay = \$30,000

MATHEMATICS TEST 2

15 Minutes 20 Questions

Directions: *Each problem in this test involves a certain amount of logical reasoning and thinking on your part, besides simple computations, to help you find the solution. Read each problem carefully and choose the correct answer from the four choices that follow. Blacken the corresponding space on your answer sheet.*

1. A sanitation man is 40 feet behind a sanitation truck. There is a second sanitation truck 90 feet behind the first truck. How much closer is the man to the first truck than to the second?

   (A) 30 feet
   (B) 50 feet
   (C) 10 feet
   (D) 70 feet

2. If a flushing machine has a capacity of 1260 gallons, how many gallons will it contain when it is two-thirds full?

   (A) 809 gallons
   (B) 750 gallons
   (C) 630 gallons
   (D) 840 gallons

3. If a man's salary is $2500 a month and there are 23 working days in the month, he earns approximately how much for each day he works that month?

   (A) $108.70
   (B) $150.00
   (C) $112.50
   (D) $186.70

4. If an employee earns $160.00 a week and has deductions of $8.00 for the pension fund, $12.00 for medical insurance, and $29.60 withholding tax, his take-home pay will be

   (A) $110.40
   (B) $108.60
   (C) $102.00
   (D) $98.40

5. A city department uses 25 twenty-cent, 35 thirty-cent, and 350 forty-cent metered postage units each day. The total cost of stamps used by the department in a five-day period is

   (A) $29.50
   (B) $155.00
   (C) $290.50
   (D) $777.50

6. A city department issued 12,000 applications in 1979. The number of applications that the department issued in 1977 was 25 percent greater than the number it issued in 1979. If the department issued 10 percent fewer applications in 1975 than it did in 1977, the number it issued in 1975 was

   (A) 16,500
   (B) 13,500
   (C) 9900
   (D) 8100

7. A clerk can add 40 columns of figures in an hour by using an adding machine and 20 columns of figures an hour without using an adding machine. The total number of hours it would take him to add 200 columns if he does three-fifths of the work by machine and the rest without the machine is

   (A) 6
   (B) 7
   (C) 8
   (D) 9

8. In 1975, a city department bought 500 dozen pencils at 40 cents per dozen. In 1978, only 75 percent as many pencils were bought as were bought in 1975, but the price was 20 percent higher than the 1975

price. The total cost of the pencils bought in 1978 was

(A) $180
(B) $187.50
(C) $240
(D) $250.00

9. A clerk is assigned to check the accuracy of the entries on 490 forms. He checks 40 forms an hour. After working one hour on this task, he is joined by another clerk, who checks these forms at the rate of 35 an hour. The total number of hours required to do the entire assignment is

(A) 5
(B) 6
(C) 7
(D) 8

10. Assume that there are a total of 420 employees in a city agency. 30 percent of the employees are clerks and one-seventh are typists. The difference between the number of clerks and the number of typists is

(A) 60
(B) 66
(C) 186
(D) 360

11. Assume that a duplicating machine produces copies of a bulletin at a cost of 12 cents per copy. The machine produces 120 copies of the bulletin per minute. If the cost of producing a certain number of copies was $36, how many minutes did it take the machine to produce this number of copies?

(A) 10 minutes
(B) 6 minutes
(C) 2.5 minutes
(D) 1.2 minutes

12. The average number of reports filed per day by a clerk during a five-day week was 720. She filed 610 reports the first day, 720 reports the second day, 740 reports the third day, and 755 reports the fourth day. The number of reports she filed the fifth day was

(A) 748
(B) 165
(C) 775
(D) 565

13. A city department employs 1400 people, of whom 35 percent are clerks and one-eighth are stenographers. The number of employees in the department who are neither clerks nor stenographers is

(A) 640
(B) 665
(C) 735
(D) 750

14. Assume that there are 190 papers to be filed and that Clerk A and Clerk B are assigned to file these papers. If Clerk A files 40 papers more than Clerk B, then the number of papers that Clerk A files is

(A) 75
(B) 110
(C) 115
(D) 150

15. A stock clerk had on hand the following items:

500 pads, worth $0.04 each
130 pencils, worth $0.03 each
50 dozen rubber bands, worth $0.02 a dozen

If, from this stock, he issued 125 pads, 45 pencils, and 48 rubber bands, the value of the remaining stock would be

(A) $6.43
(B) $8.95
(C) $17.63
(D) $18.47

16. Joe can paint a fence in three hours and his friend can paint the fence in four hours. How long will it take them to do the job if they work together?

(A) 7 hours
(B) $\frac{15}{7}$ hours
(C) $1\frac{5}{7}$ hours
(D) 2 hours

17. A department head hired a total of 60 temporary employees to handle a seasonal increase in the department's workload.

The following lists the number of temporary employees hired, their rates of pay, and the duration of their employment:

> One-third of the total were hired as clerks, each at the rate of $9750 a year, for two months.
>
> 30 percent of the total were hired as office-machine operators, each at the rate of $11,500 a year, for four months.
>
> 22 stenographers were hired, each at the rate of $10,200 a year, for three months.

The total amount paid to these temporary employees was approximately

(A) $178,000
(B) $157,600
(C) $52,200
(D) $48,500

18. Assume that there are 2300 employees in a city agency. Also assume that five percent of these employees are accountants; that 80 percent of the accountants have college degrees; and that one-half of the accountants who have college degrees have five years of experience. Then the number of employees in the agency who are accountants with college degrees and five years of experience is

(A) 46
(B) 51
(C) 460
(D) 920

19. If a monthly salary of $3000 is subject to a $425 tax deduction, the net salary is

(A) $2557.00
(B) $2755.00
(C) $2575.00
(D) $2555.00

20. A sanitation worker who reports 45 minutes early for 8:00 A.M. duty will report at

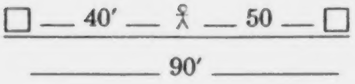
(A) 7:00 A.M.
(B) 7:30 A.M.
(C) 6:15 A.M.
(D) 7:15 A.M.

Answer Key

1. **C**
2. **D**
3. **A**
4. **A**
5. **D**
6. **B**
7. **B**
8. **A**
9. **C**
10. **B**
11. **C**
12. **C**
13. **C**
14. **C**
15. **D**
16. **C**
17. **B**
18. **A**
19. **C**
20. **D**

Explanatory Answers

1. **(C)**



The second truck is 90 feet − 40 feet = 50 feet from the man. The first truck is 40 feet from the man. The first truck is 50 feet − 40 feet = 10 feet closer than the second truck.

2. **(D)** Total capacity = 1260 gallons

$$\frac{2}{3} \text{ of } 1260 \text{ is } \frac{2}{3} \times 1260$$

$$= \frac{2520}{3}$$

$$= 840 \text{ gallons}$$

3. **(A)** Salary per month = $2500
Days worked = 23

To find the earnings per day, divide:

$2500/month ÷ 23 days/month = $108.70/day

or

$$\frac{\$2500}{\text{month}} \div \frac{23 \text{ days}}{\text{month}}$$

$$= \frac{\$2500}{\cancel{\text{month}}} \times \frac{\cancel{\text{month}}}{23 \text{ days}}$$

$$\frac{\$2500}{23 \text{ days}} = \$108.70/\text{day}$$

4. **(A)**

Total earnings = $160.00
Deductions = 8.00 pension
= 12.00 medical insurance
= 29.60 withholding tax
= $49.60 total deductions

The take-home pay can be found by subtracting the total deduction from the salary.

$160.00 − $49.60 = $110.40

Take-home pay = $110.40

5. **(D)**

Stamps per day	*Cost per day*
25/day × $0.20 =	5.00
35/day × $0.30 =	10.50
350 × $0.40 =	140.00
Total cost/day	$155.50

For five days, 5 × $155.50 = $777.50

Total cost = $777.50

6. **(B)** Number of applications issued in 1979 = 12,000

In 1977, 25 percent more were issued, or:

0.25 × 12,000 = 3000 more in 1977

So there were 3000 + 12,000 = 15,000 issued in 1977.

In 1975, ten percent fewer were issued than in 1977, or:

0.10 × 15,000 = 1500 fewer were issued in 1975.

The number issued in 1975 is

15,000 − 1500 = 13,500

13,500 issued.

7. **(B)** If three-fifths of the 200 are done by machine, then:

$$\frac{3}{5} \times 200 = \frac{600}{5} = 120$$

columns will be done by the machine. To find the number done by hand, subtract:

200 − 120 = 80 will be done by hand.

To find the time it takes to do the 120 columns by machine and the 80 columns by hand, divide:

120 columns ÷ 40
columns per hour = 3 hours
80 columns ÷ 20
columns per hour = 4 hours
Total time = 7 hours

8. **(A)** Total number of pencils bought in 1975 was 500 dozen at 40 cents a dozen; in 1978, 75 percent of the 500 dozen were bought at a 20 percent increase in price.

   First, find how many pencils were bought in 1978. Do this by multiplying:

   500 × 0.75 = 375 dozen were bought in 1978

   Now find the price per dozen. You know that it was 20 percent more than 40 cents:

   $0.40 × 0.20 increase = $0.08 or 8¢ increase in price.

   So the price per dozen is:

   40¢ + 8¢ = 48¢ or $0.48

   To find the cost, multiply the number of dozens of pencils by the cost per dozen.

   375 dozen × $0.48/dozen = $180

   Total cost for 1978 = $180.

9. **(C)** During the first hour, 40 forms were checked, leaving 450 to be checked:

   490 − 40 = 450

   The two clerks working together can check 75 forms.

   Now find the time it takes to do the 450 forms. Do this by dividing:

   450 forms ÷ 75 forms/hour = 6 hours

   It takes six hours to do the 450 and one hour for the first 40 forms:

   6 hours + 1 hour = 7 hours to do the job.

   A total of 7 hours is needed.

10. **(B)** Total employed = 420
    If 30 percent are clerks,

    420 × 0.30 = 126 clerks

    $\frac{1}{7}$ are typists:

    $420 \times \frac{1}{7} = 60$ typists

    The difference is 126 − 60 = 66.

11. **(C)** Cost = 12¢ per copy
    Time = 120 copies per minute

    To find the number of copies produced, divide:

    36 ÷ 0.12 = 300 copies

    To find the number of minutes, divide:

    300 copies ÷ 120 copies/minute = 2.5 minutes

12. **(C)** If the average number of reports filed for five days was 720, then

    5 days × 720 reports/day = 3600 reports for the five-day period.

    For four days:

    610 + 720 + 740 + 755 = 2825 reports were filed.

    Subtract:

    3600 − 2825 = 775 need to be filed the fifth day to get an average of 720 for the five-day period.

13. **(C)** Total employees = 1400

    35% clerks = 1400 × .35 = 490 clerks

    $\frac{1}{8}$ stenos = $1400 \times \frac{1}{8}$ = 175 stenos

    Together (490 + 175 = 665), there are 665 clerks and stenographers. To find how many employees are neither, subtract:

    1400 − 665 = 735

    Answer = 735 other employees

14. **(C)** If clerk A files 40 more than clerk B, then take 40 papers aside:

    190 − 40 = 150

    There are now 150 papers to be filed; each will file half of the 150 papers:

    150 ÷ 2 = 75 papers

    Clerk A files 75 + 40 = 115.
    Clerk B files 75.

/

15. **(D)** Stock on hand and cost per item:

	cost
500 pads × 0.04/pad	= $20.00
130 pencils × 0.03/pencil	= $3.90
50 dozen rubber bands × 0.02/ dozen	= $1.00
	$24.90
	value of stock on hand

If we issue the items below,

125 pads × $0.04	=	5.00
45 pencils × .03	=	1.35
48 rubber bands or 4 dozen × .02	=	.08
		$6.43

To find the value of the remaining stock, subtract:

$24.90 − $6.43 = $18.47

Value = $18.47

16. **(C)** Let t be the amount of time for both to do the job. If Joe does $\frac{t}{3}$ part of the job, and his friend does $\frac{t}{4}$ part of the job, then

$\frac{t}{3} + \frac{t}{4} = 1$ (the whole job)

$4t + 3t = 12$ multiply lowest common denominator by 12

$7t = 12$ combine like terms

$t = \frac{12}{7}$ divide by 7.

$t = 1\frac{5}{7}$ hours

17. **(B)** Total employees = 60

$\frac{1}{3} \times 60$ = 20 clerks

30% × 60,

or 0.30 × 60 = 18 office machine
38 operators

60 − 38 = 22 stenos

To find their *rate per month*, divide their monthly salaries by 12, because there are 12 months in a year:

clerks $\frac{\$9750}{12} = \$812.50$

OMOs $\frac{\$11,500}{12} = \$958.33$

stenos $\frac{\$10,200}{12} = \$850.00$

Now find the salary for all employees for the time they worked:

If 20 clerks worked two months, total pay equals:

20 × 2 × $812.50 = $32,500.00

If 18 OMOs worked four months, total pay equals:

18 × 4 × $958.33 = $68,999.76

If 22 stenos worked three months, total pay equals:

22 × 3 × $850.00 = $56,100.00

Total salaries = $157,599.76. This amount can be rounded off to $157,600.00

18. **(A)** 5 percent of 2300 are accountants:

0.05 × 2300 = 115

80 percent of the 115 accountants have college degrees:

0.80 × 115 = 92

One-half of the 92 have five years experience:

$\frac{1}{2} \times 92 = 46$

46 employees have all three qualifications.

19. **(C)** $3000 is subject to $425 tax. The net can be found by subtracting:

$3000 − $425 = $2575

20. **(D)** A sanitation worker who reports 45 minutes early for 8:00 A.M. duty reports

$$\begin{array}{r} \text{7 hours 60 minutes} \\ \underline{-\quad\quad\quad \text{45 minutes}} \\ \text{7 hours 15 minutes} \end{array}$$

Note: 1 hour = 60 minutes
8 hours = 7 hours 60 minutes

This worker reports at 7:15 A.M.

MATHEMATICS TEST 3

15 Minutes **20 Questions**

Directions: *Each problem in this test involves a certain amount of logical reasoning and thinking on your part, besides simple computations, to help you find the solution. Read each problem carefully and choose the correct answer from the four choices that follow. Blacken the corresponding space on your answer sheet.*

1. If the average cost of sweeping a square foot of a small town's street is $0.75, the cost of sweeping 100 square feet is

   (A) $7.50
   (B) $750
   (C) $75
   (D) $70

2. If a sanitation department scow is towed at the rate of three miles an hour, how many hours will it need to go 28 miles?

   (A) 10 hours 30 minutes
   (B) 12 hours
   (C) 9 hours 20 minutes
   (D) 9 hours 15 minutes

3. If a man is 60 feet away from a sanitation truck, how many feet nearer is he to the truck than a second truck that is 100 feet away?

   (A) 60 feet
   (B) 40 feet
   (C) 50 feet
   (D) 20 feet

4. A clerk divided his 35-hour work-week as follows:

   One-fifth of his time in sorting mail; one-half of his time in filing letters; and one-seventh of his time in reception work.

   The rest of his time was devoted to messenger work. The percentage of time spent on messenger work by the clerk during the week was most nearly

   (A) 6 percent
   (B) 10 percent
   (C) 14 percent
   (D) 16 percent

5. A city department has set up a computing unit and has rented five computing machines at a yearly rental of $1400 per machine. In addition, the cost to the department for the maintenance and repair of each of these machines is $100 per year. Five computing machine operators, each receiving an annual salary of $30,000 and a supervisor, who receives $38,000 a year, have been assigned to the unit. This unit will perform the work previously performed by ten employees whose combined salary was $324,000 a year. On the basis of these facts, the savings that will result from the operation of this computing unit for five years will be most nearly

   (A) $500,000
   (B) $947,500
   (C) $640,000
   (D) $950,000

6. Joe can do a certain job in eight days. After working alone for four days, he is joined by Mary, and together they finish the work in two more days. How long would it take Mary alone?

   (A) 5 days
   (B) 6 days
   (C) 7 days
   (D) 8 days

7. Six gross of special drawing pencils were purchased for use in a city department. If the pencils were used at the rate of 24 a week, the maximum number of weeks that the six gross of pencils would last is

   (A) 6 weeks
   (B) 12 weeks
   (C) 24 weeks
   (D) 36 weeks

8. A stock clerk had 600 pads on hand. He then issued three-eighths of his supply of pads to Division X, one-fourth to Division Y, and one-sixth to Division Z. The number of pads remaining in stock is

   (A) 48
   (B) 125
   (C) 240
   (D) 475

9. Typist A can do a job in three hours. Typist B can do the same job in five hours. How long would it take both, working together, to do the job?

   (A) 5 hours
   (B) $3\frac{1}{2}$ hours
   (C) $1\frac{7}{8}$ hours
   (D) $1\frac{5}{8}$ hours

10. After gaining 50 percent of his original capital, a man had capital of $18,000. Find the original capital.

   (A) $12,200.00
   (B) $13,100.00
   (C) $12,000.00
   (D) $12,025.00

11. A cogwheel having eight cogs plays into another cogwheel having 24 cogs. When the small wheel has made 42 revolutions, how many has the larger wheel made?

   (A) 14
   (B) 20
   (C) 16
   (D) 10

12. A student worked 30 days at a part-time job. He paid two-fifths of his earnings for room and board and had $81 left. What was his daily wage?

   (A) $4.50
   (B) $5.00
   (C) $5.50
   (D) $6.25

13. A dealer bought motorcycles for $4000. He sold them for $6200, making $50 on each motorcycle. How many motorcycles were there?

   (A) 40
   (B) 38
   (C) 43
   (D) 44

14. An organization had one-fourth of its capital invested in goods, two-thirds of the remainder in land, and the remainder, $1224, in cash. What was the capital of the firm?

   (A) $4986.00
   (B) $4698.00
   (C) $4896.00
   (D) $4869.00

15. A and B together earn $2100. If B is paid one-fourth more than A, how many dollars should B receive?

   (A) $1166.66
   (B) $1162.66
   (C) $1617.66
   (D) $1167.66

16. If a boat is bought for $21,500 and sold again for $23,650, what is the percentage of gain?

   (A) 8 percent
   (B) 15 percent
   (C) 20 percent
   (D) 10 percent

17. A person owned five-sixths of a piece of property and sold three-fourths of her share for $1800. What was the value of the property?

   (A) $2808.00
   (B) $2880.00
   (C) $2088.00
   (D) $2880.80

18. A lot costing $21,250 leases for $1900 a year. The taxes and other expenses are $300 per year. Find the percentage of net income on the investment.

   (A) $7\frac{1}{2}$ percent
   (B) 6 percent
   (C) 4 percent
   (D) 10 percent

19. B owned 75 shares of stock in a building association worth $50 each. The association declared a dividend of eight percent, payable in stock. How many shares did he then own?

(A) 81 shares
(B) 80 shares
(C) 90 shares
(D) 85 shares

20. It requires four men three days to take an inventory; the weekly salary of each is as follows:

A–$250, B–$130, C–$120, D–$90.

Calculate the cost of taking the inventory, assuming that there are five full working days in a week.

(A) $119.00
(B) $196.00
(C) $354.00
(D) $588.00

ANSWER KEY

1. C
2. C
3. B
4. D
5. C
6. D
7. D
8. B
9. C
10. C
11. A
12. A
13. D
14. C
15. A
16. D
17. B
18. A
19. A
20. C

Explanatory Answers

1. **(C)** If it cost \$0.75 to sweep one square foot, to find the cost for 100 square feet, multiply:

   100 square feet × 0.75 square foot
   = \$75

   Total cost = \$75

2. **(C)** It takes one hour to tow a scow three miles. Find the time to tow the scow 28 miles by dividing:

   28 miles ÷ 3 miles/hour

   $= 9\frac{1}{3}$ hours

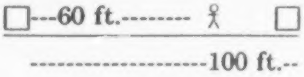
   $\frac{1}{3}$ hour × 60 minutes/hour

   = 20 minutes

   Note: 1 hour = 60 minutes. To change hours to minutes, multiply by 60 minutes/hour.

   It takes nine hours, 20 minutes to tow the scow 28 miles.

3. **(B)**



Truck to the other truck	100 feet
Truck to the man	−60 feet
	40 feet

   The difference is 40 feet.

4. **(D)** A clerk works 35 hours per week. $\frac{1}{5}$ of his time is used to sort mail:

   $\frac{1}{5} \times 35 = 7$ hours

   $\frac{1}{2}$ of his time is used to file letters:

   $\frac{1}{2} \times 35 = 17\frac{1}{2}$ hours

   $\frac{1}{7}$ of his time is used for reception work.

   $\frac{1}{7} \times 35 = 5$ hours

   Total = $29\frac{1}{2}$ hours

   $29\frac{1}{2}$ hours was used for the above. To find the time left for messenger work, subtract $35 - 29\frac{1}{2} = 5\frac{1}{2}$ hours.

   Now to find what percentage of 35 is $5\frac{1}{2}$, divide:

   5.5 ÷ 35 = 0.16 or 16%

   Note: $5\frac{1}{2} = 5.5$

   16% remains for messenger work.

5. **(C)** *Item*

5 machines—\$1400/year	5 × 1400	\$7000
Maintenance, repairs—\$100/machine	5 × 100	\$500
5 operators' annual salary --\$30,000	5 × 30,000	\$150,000
Supervisor's annual salary —\$38,000	1 × 38,000	\$38,000
	total cost	\$195,500

   If ten employees were paid a total of \$324,000, find the savings by subtracting:

   \$324,000 − \$195,500 = \$128,500 one year's savings

   To find the savings for five years, multiply:

   \$128,500 × 5 = \$642,500

   This amount *rounds off to* (is nearest) \$640,000

6. **(D)** If Joe can do the job alone in eight days, then he can do $\frac{1}{8}$ in one day and $\frac{6}{8}$ or $\frac{3}{4}$ in six days.

   Let n be the number of days it would take Mary to do the job alone. Then:

   $\frac{1}{n}$ is the part of the job she can do in one day and $\frac{2}{n}$ is the part of the job she can do in the two days she works with Joe.

Now, the sum of parts done by Joe and Mary equal one whole job:

$$\frac{3}{4} + \frac{2}{n} = 1$$

$3n + 8 = 4n$ multiply by the lowest common denominator (LCD), $4n$

$8 = 4n - 3n$ subtract $3n$ from both sides of the equation

$8 = n$ subtract like terms

$n = 8$

Mary alone could do the job in 8 days.

7. **(D)** One gross = 144 pencils
6 gross = 144/gross × 6 gross = 864 pencils (on hand)
If 24 pencils are used each week, divide to find the number of weeks they will last:

$864 \div 24/\text{week} = 36$ weeks

Supplies would last 36 weeks.

8. **(B)** From a total of 600 pads on hand:

$\frac{3}{8} \times 600 = 225$ for Div. X

$\frac{1}{4} \times 600 = 150$ for Div. Y

$\frac{1}{6} \times 600 = \underline{100}$ for Div. Z

Total to be issued 475
The number left $600 - 475 = 125$

125 remain.

9. **(C)** A can do one-third of the job in one hour. B can do one-fifth of the job in one hour. Together they can do $\frac{1}{3} + \frac{1}{5}$ of the job in one hour. Let t be the time it takes for both to do the job. Together, they can do $\frac{1}{t}$ of the job in one hour. Thus:

$$\frac{1}{3} + \frac{1}{5} = \frac{1}{t}$$

$5t + 3t = 15$ multiply lowest common denominator by the $15t$ or $3 \times 5 \times t$.

$8t = 15$ add like terms

$t = \frac{15}{8}$ divide both sides by 8

$t = 1\frac{7}{8}$ hour

10. **(C)** Let x be the unknown original capital and $0.50x$ be 50 percent of the unknown capital.
Therefore:

$x + .50x = \$18{,}000$

$1.50x = \$18{,}000$ add like terms

$\frac{1.50x}{1.50} = \frac{\$18{,}000}{1.50}$ divide both sides by 1.50

$x = \$12{,}000$

$12,000 is the original amount of the capital.

11. **(A)** If the cogs on two wheels are sized and spaced the same, the smaller of the two wheels will turn faster than the larger one—the fewer cogs a wheel has, the more revolutions it makes. The number of cogs is, therefore, inversely proportional to the number of revolutions:

$$\frac{\text{cogs } 8}{\text{cogs } 24} = \frac{x \text{ revolutions}}{42 \text{ revolutions}}$$

$$\frac{8}{24} \times \frac{x}{42}$$

$24x = 8(42)$ cross-multiply

$24x = 336$ multiply like terms (8×42)

$\frac{24x}{24} = \frac{336}{24}$ divide both sides by 24

$x = 14$ revolutions

12. **(A)** If two-fifths of his salary was used, then three-fifths was left; three-fifths of his salary is $81. Now, since his salary is unknown, let x represent it:

$\frac{3}{5} \times x = \$81$

$x = \$81 \div \frac{3}{5}$ divide both sides by $\frac{3}{5}$

$x = \$81 \times \frac{5}{3}$ invert and multiply

$x = \$135$

His salary is $135 for 30 days of work. To find the *daily wage*, divide the salary by 30:

$\$135 \div 30 \text{ days} = \$4.50/\text{day}$

Daily wage = $4.50

13. **(D)** To find the number of motorcycles purchased, first subtract his original purchase price from the selling price:

$\$6200 - \$4000 = \$2200$ profit

Since the profit was $2200, and the profit on each motorcycle was $50, the number of motorcycles sold is:

$\$2200$ profit $\div$ 50 profit/motorcycle = 44 motorcycles sold

14. **(C)** $\frac{1}{4}$ in *goods* (given)

$\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$ in *land* (because $\frac{3}{4}$ is the remainder after the goods are invested).

$\frac{1}{4}$ is left in *cash*, because if,

$\frac{1}{4}$ is in goods + $\frac{1}{2}$ is in land, $\frac{3}{4}$ is invested, leaving $\frac{1}{4}$ for cash.

If $\frac{1}{4}$, which is the cash, is valued at $1224,

$\frac{1}{4}$ in goods = $1224

$\frac{1}{2}$ is twice as much as $\frac{1}{4}$:

$\frac{1}{2}$ in land = $2448

$\frac{1}{4}$ in cash = $\underline{\$1224}$

$4896

Total capital = $4896

15. **(A)** Let A equal the amount A earned, and B equal the amount B earned.

Together, they earned $A + B = \$2100$.

If B is paid $\frac{1}{4}$ more than A, then A's salary plus $\frac{1}{4}$ of A's salary is equal to B's salary. Express this as follows:

$B = A + \frac{1}{4}A$

$4B = 4A + A$ multiply by 4

$-5A + 4B = 0$ transpose the A terms

Now you have two equations with two unknowns. Use the elimination method to find B's salary:

$$\begin{array}{rrl}
A + B = & \$2100 & \text{multipy} \\
-5A + 4B = & 0 & \text{the first} \\
5A + 5B = & \$10,500 & \text{equation} \\
-5A + 4B = & 0 & \text{by 5.} \\
\hline
9B = & \$10,500 & \text{add the two equations} \\
B = & \$1166.67 & \\
 & \text{or } \$1166\tfrac{2}{3} & \text{now divide by 9}
\end{array}$$

Note: $0.67 = \frac{2}{3}$

16. **(D)** The boat costs $21,500 and was sold for $23,650. Subtract:

$\$23,650 - \$21,500 = \$2150$

$2150 was gained. To find the percentage gained, divide the amount gained by the original amount:

$\$2150 \div \$21,500 = 0.10$ or 10%

Percentage gained = 10%

17. **(B)** $\frac{5}{6} \times \frac{3}{4} = \frac{5}{8}$ of the property costs $1800

Then, letting y represent the value of the property,

$\frac{5}{8} \times y = \$1800$

$y = \$1800 \div \frac{5}{8}$ divide both sides by $\frac{5}{8}$

$y = \$1800 \times \frac{8}{5}$ invert and multiply

BEST COPY AVAILABLE

Therefore, $2880 is the price of the property.

18. **(A)** A lot costs $21,250.

$1900 is received for lease
$\underline{-300}$ is deducted for expenses
$1600 is net income

To find what percentage $1600 is of the cost of the lot, divide:

$1600 \div 21{,}250 = 0.075$ or $7\frac{1}{2}\%$

$7\frac{1}{2}\%$ = percentage of cost

19. **(A)** Total shares currently owned = 75. Values per share = $50.

To find the value of the stock, multiply 75 × $50 = $3750

To find 8%, multiply the stock value by 0.08.

$3750 × 0.08 = $300 (dividend)

Given $300, divide by $50 to see how many additional shares of stock can be purchased:

$300 ÷ 50 = 6 shares

Therefore, he now owns 75 + 6 = 81 shares.

20. **(C)** First, find the salary each man is paid for one day. To do so, divide their salaries by 5 days:

		salary/ day		salary/ 3 days
A $\frac{\$250}{5}$	=	$50.00	× 3 =	$150
B $\frac{\$130}{5}$	=	$26.00	× 3 =	$78
C $\frac{\$120}{5}$	=	$24.00	× 3 =	$72
D $\frac{\$90}{5}$	=	$18.00	× 3 =	$\underline{\$54}$
				$354

Total salaries for 3 days = $354

MATHEMATICS TEST 4

22 Minutes **31 Questions**

Directions: *Each problem in this test involves a certain amount of logical reasoning and thinking on your part, besides simple computations, to help you find the solution. Read each problem carefully and choose the correct answer from the choices that follow. Blacken the corresponding space on your answer sheet.*

1. In simplest form, $-11 - (-2)$ is

   (A) 7
   (B) 9
   (C) -11
   (D) -9

2. Find the average of 6.47, 5.89, 3.42, 0.65, 7.09.

   (A) 5.812
   (B) 4.704
   (C) 3.920
   (D) 4.705

3. $\frac{456.3}{0.89}$ equals

   (A) $513\frac{13}{89}$
   (B) 512.70
   (C) 513.89
   (D) $512\frac{59}{89}$

4. Add 5 hours 13 minutes; 3 hours 49 minutes; and 24 minutes. The sum is

   (A) 9 hours 26 minutes
   (B) 8 hours 16 minutes
   (C) 9 hours 76 minutes
   (D) 8 hours 6 minutes

5. Two numbers are in the ratio of 18:47. If the smaller number is 126, the larger number is

   (A) 376
   (B) 144
   (C) 235
   (D) 329

6. Change 0.3125 to a fraction.

   (A) $\frac{3}{64}$
   (B) $\frac{1}{16}$
   (C) $\frac{1}{64}$
   (D) $\frac{5}{16}$

7. Divide $\frac{7}{8}$ by $\frac{7}{8}$.

   (A) 1
   (B) 0
   (C) $\frac{7}{8}$
   (D) $\frac{49}{64}$

8. In the series 5, 8, 13, 20, the next number should be

   (A) 23
   (B) 26
   (C) 29
   (D) 32

9. What is interest on $300 at 6 percent for ten days? (Assume year = 360 days)

   (A) $0.50
   (B) $1.50
   (C) $2.50
   (D) $5.50

10. If the scale on a map indicates that one and one-half inches equals 500 miles, then five inches on the map will represent approximately

    (A) 1800 miles
    (B) 1700 miles
    (C) 1300 miles
    (D) 700 miles

BEST COPY AVAILABLE

11. $\frac{1}{2}$ percent equals

(A) 0.002
(B) 0.020
(C) 0.005
(D) 0.050

12. If an employee drew $260, which was 20 percent of her bonus, her entire bonus was

(A) $2300
(B) $2600
(C) $1600
(D) $1300

13. If a kilogram equals about 35 ounces, the number of grams in one ounce is approximately

(A) 29
(B) 30
(C) 31
(D) 32

14. The price per gross of items that sell at the rate of 20 for 30 cents is

(A) $2.16
(B) $1.80
(C) $3.60
(D) $2.40

15. If sound travels at the rate of 1100 feet per second, in one-half minute it will travel about

(A) 6 miles
(B) 8 miles
(C) 10 miles
(D) 3 miles

16. If a kilometer is about five-eighths of a mile, two miles are about

(A) 1.6 kilometers
(B) 3.2 kilometers
(C) 2.4 kilometers
(D) 3.75 kilometers

17. A lecture hall which is 25 feet wide and 75 feet long has a perimeter equal to

(A) 1750 feet
(B) 200 yards
(C) 66 $\frac{2}{3}$ yards
(D) 1875 feet

18. After deducting a discount of $16\frac{2}{3}$ percent, the price of a blouse was $35. The list price was

(A) $37.50
(B) $38
(C) $41.75
(D) $42

19. The number of decimal places in the product of 0.4266 and 0.3333 is

(A) 8
(B) 4
(C) 14
(D) none of these

20. What is the cost of 5500 powder puffs at $50 per thousand?

(A) $385
(B) $550
(C) $275
(D) $285

21. 572 divided by 0.52 is

(A) 1100
(B) 110
(C) 11.10
(D) 11,000

22. 200 percent of 800 equals

(A) 2500
(B) 16
(C) 1600
(D) 4

23. The average of a seventh-grade baseball team that won ten games and lost five games is

(A) 0.667
(B) 0.500
(C) 0.333
(D) 0.200

24. The number of cubic feet of soil needed for a flower box three feet long, eight inches wide, and one foot deep is

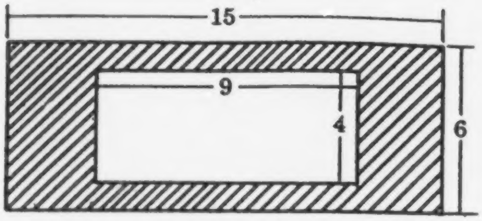
(A) 24
(B) 12
(C) $4\frac{2}{3}$
(D) 2

25. At $1250 per hundred, 228 watches will cost

(A) $2850
(B) $36,000
(C) $2880
(D) $360

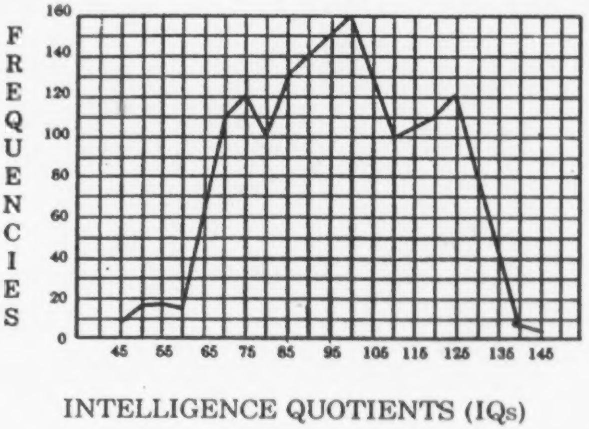
26. The area of the shaded portion of the rectangle above right is

(A) 54 square inches
(B) 90 square inches
(C) 45 square inches
(D) 36 square inches



27. On February 12, 1989, the age of a boy who was born on March 15, 1979, will be

(A) 10 years 10 months 3 days
(B) 9 years 9 months 27 days
(C) 10 years 1 month 3 days
(D) 9 years 10 months 27 days



Questions 28 to 31 are based on the above graph.

28. The number of pupils having the highest IQ is about

(A) 5
(B) 160
(C) 145
(D) 20

29. The number of pupils having an IQ of 75 is about

(A) 130
(B) 100
(C) 120
(D) 110

30. The number of pupils having an IQ of 80 is identical with the number of pupils having an IQ of

(A) 100
(B) 68
(C) 110
(D) 128

31. The IQ that has the greatest frequency is

(A) 100
(B) 95
(C) 105
(D) 160

BEST COPY AVAILABLE

Answer Key

1. D
2. B
3. B
4. A
5. D
6. D
7. A
8. C
9. A
10. B
11. C
12. D
13. A
14. A
15. A
16. B
17. C
18. D
19. A
20. C
21. A
22. C
23. A
24. D
25. A
26. A
27. D
28. A
29. C
30. C
31. A

Explanatory Answers

1. **(D)** $-11 - (-2)$
$= -11 + 2$
$= -9$

2. **(B)** $6.47 + 5.89 + 3.42 + .65 + 7.09$
$= 23.52$

To find the average, divide the sum by five (the number of terms involved).

$23.52 \div 5 = 4.704$

Average $= 4.704$

3. **(B)**

$$\begin{array}{r} 512.69\frac{59}{89} \\ .89.\overline{)456.30.00} \\ \underline{445} \\ 113 \\ \underline{89} \\ 240 \\ \underline{178} \\ 620 \\ \underline{534} \\ 860 \\ \underline{801} \\ 59 \text{ remainder} \end{array}$$

$512.69\frac{59}{89}$ rounds off to 512.70.

4. **(A)**

$$\begin{array}{rr} & \text{5 hours 13 minutes} \\ & \text{3 hours 49 minutes} \\ + & \underline{\text{24 minutes}} \\ & \text{8 hours 86 minutes} \end{array}$$

Since there are 60 minutes in one hour, then 86 minutes = 60 minutes + 26 minutes or 1 hour and 26 minutes.

So,
8 hours and 86 minutes = 9 hours and 26 minutes.

5. **(D)** $\frac{18}{47} \times \frac{126}{x}$

$18x = 47(126)$ cross-multiply
$18x = 5922$
$x = 329$ divide by 18

6. **(D)** $0.3125 = \frac{3125}{1,000} = \frac{5}{16}$

7. **(A)** $\frac{7}{8} \div \frac{7}{8}$

$= \frac{7}{8} \times \frac{8}{7}$ invert the second term and multiply

$= 1$

8. **(C)** 5, 8, 13, 20. To each number, add the next odd number to determine the next number in the series.

Series		*Odd Number*	
5	+	3	= 8
8	+	5	= 13
13	+	7	= 20
20	+	9	= 29

29 will be the next number.

9. **(A)** *Interest* = *Principal* × *Rate* × *Time*

$= \$300 \times 0.06 \times \frac{10}{360}$
$= \frac{\$180}{360} = \frac{\$1}{2}$
$= \$.50$

10. **(B)** First, find the number of $1\frac{1}{2}$ inch units there are in five inches. Do this by dividing:

$5 \div 1\frac{1}{2}$
$= 5 \div \frac{3}{2}$ change $1\frac{1}{2}$ to $\frac{3}{2}$
$= 5 \times \frac{2}{3}$ invert and multiply
$= \frac{10}{3}$

Now find the total miles by multiplying:

$500 \times \frac{10}{3} = 1666.67$

Five inches represents approximately 1700 miles.

11. **(C)** $\frac{1}{2\%} = 0.5\%$ or $\frac{0.5}{100} = 0.005$

12. **(D)** \$260 is 20% of the bonus. Write this in equation form. Let the bonus be x.

$\$260 = .20x$
$\frac{260}{.20} = \frac{.20x}{.20}$ divide by 0.20
$\$1300 = x$

Her entire bonus was \$1300.

BEST COPY AVAILABLE

13. **(A)** 1 kilogram = 35 ounces

Find how many grams there are in 1 ounce.

Note: 1 kilogram = 1000 grams
1000 grams = 35 ounces

$$1\ \cancel{\text{ounce}} \times \frac{1000\text{ grams}}{35\ \cancel{\text{ounces}}}$$
$$= \frac{1000\text{ grams}}{35}$$
$$= 28.6 \text{ or } 29 \text{ grams in one ounce}$$

14. **(A)** 1 gross = 144

If 20 items sell for $0.30, find how many groups of 20 there are in 144:

144 ÷ 20 = 7.2 groups of 20

To find the cost, multiply by $0.30

7.2 × $0.30 = $2.16

The price multiplied per gross = $2.16

15. **(A)** First, find the number of seconds there are in one-half minute:

$\frac{1}{2} \times 60$ sec/min = 30 seconds.

Since sound travels 1100 feet per second, it will travel:

30 sec. × 1100 ft. = 33,000 ft.

Change the 33,000 feet to miles (1 mile = 5280 feet).

$$33{,}000\ \cancel{\text{feet}} \times \frac{1\text{ mile}}{5280\ \cancel{\text{feet}}}$$
$$= 6.25$$

Round off: 6.25 miles = about 6 miles

16. **(B)** 1 kilometer = $\frac{5}{8}$ mile

$$2\text{ miles} \times \frac{1\text{ kilometer}}{5/8\text{ mile}}$$
$$= 2\text{ miles} \times \frac{1\text{ kilometer}}{\frac{5}{8}\text{ mile}}$$
$$= 2\text{ miles} \times \frac{8\text{ kilometers}}{5\text{ meters}}$$
$$= 3.2\text{ kilometers}$$

Two miles = about 3.2 kilometers

17. **(C)** Perimeter of a rectangle (the hall is shaped like a rectangle) is:

$$\begin{aligned} \textit{Perimeter} &= 2\ \textit{length} + 2\ \textit{width} \\ &= 2(75) + 2(25) \\ &= 150 + 50 \\ &= 200\text{ feet} \end{aligned}$$

The perimeter is 200 feet.

Now change 200 feet to yards (3 feet = 1 yard).

$$200\text{ feet} \times \frac{1\text{ yard}}{3\text{ feet}} = 66\tfrac{2}{3}\text{ yards}$$

18. **(D)** Let the price of a blouse be x. Then:

$$x - 16\tfrac{2}{3}\%x = 35$$

$\frac{2}{3} = 0.67$, so $16.6770\% = 0.1667$.

$$\begin{aligned} x - 0.1667x &= \$35 && \text{Change the percent to a decimal} \\ 0.8333x &= \$35 && \text{combine like terms} \\ x &= \$42 && \text{divide by 0.8333} \end{aligned}$$

List price was $42.

19. **(A)** To find the number of decimal places in the product of two numbers, find the sum of the number of digits to the right of the decimal of each number.

0.4266	has 4 digits to the right.
0.3333	has 4 digits to the right.

There should be 8 digits in the product.

20. **(C)** 5.5 thousand × $50 thousand = $275

21. **(A)**

$$\begin{array}{r@{}l}
 & 1100. \\
\underset{\curvearrowright}{.52.}\big) & \overline{572.\underset{\curvearrowright}{00.}} \\
 & \underline{52} \\
 & 52 \\
 & \underline{52} \\
 & 00 \\
 & \underline{\underline{00}}
\end{array}$$

Answer: 1100

22. **(C)** 200 percent of 800

2.00 × 800 = 1600

23. **(A)** The total games played was 15. To find their average, divide games won by total played:

    10 ÷ 15 = 0.667

    Their average is 0.667

24. **(D)** To find the soil needed, first change the 8 inches to feet, so all units will be the same.

    $$8 \text{ inches} \times \frac{1 \text{ foot}}{12 \text{ inches}} = 0.67 \text{ feet}$$

    Now multiply all units.

    3 feet × 0.67 feet × 1 foot = 2 cubic feet

    2 cubic feet of soil will be needed to fill the box.

25. **(A)** Find the price for one watch by dividing:

    $1250 (per hundred) ÷ 100
    = $12.50 (price of one watch)

    To find the cost of 228, multiply the number of watches by the price per watch.

    228 watches × $12.50 per watch
    = $2850

    The cost of the watches will be $2850.

26. **(A)** Find the area of the small rectangle and subtract its area from the large rectangle to determine the shaded area.

    Large rectangle

    A = *length* × *width*
    = 6 × 15
    = 90 square inches

    Small rectangle

    A = *length* × *width*
    = 4 × 9
    = 36 square inches

    90 − 36 = 54 square inches

    The area of the shaded area is 54 square inches.

27. **(D)**

From		*To*
March 15, 1979	...	March 15, 1988
March 15, 1988	...	Jan. 15, 1989
Jan. 15, 1989	.....	Feb. 12, 1989

Time

9 years
10 months
27 days

His age will be 9 years 10 months 27 days.

28. **(A)** On the chart, each line represents ten units. The highest IQ is about halfway on the first line, which is half of ten.

    So the answer is five.

29. **(C)** Locate IQ on base and trace to horizontal intersection.

30. **(C)** There are 100 students with an IQ of 80. Looking across the chart we see that there are also 100 students with an IQ of 110.

31. **(A)** Highest point on the graph, an IQ of 100.

Answer Sheet
Mathematics—Quantitative Comparisons

TEST 5

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ
21. Ⓐ Ⓑ Ⓒ Ⓓ
22. Ⓐ Ⓑ Ⓒ Ⓓ
23. Ⓐ Ⓑ Ⓒ Ⓓ
24. Ⓐ Ⓑ Ⓒ Ⓓ
25. Ⓐ Ⓑ Ⓒ Ⓓ
26. Ⓐ Ⓑ Ⓒ Ⓓ
27. Ⓐ Ⓑ Ⓒ Ⓓ
28. Ⓐ Ⓑ Ⓒ Ⓓ

TEST 6

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ

MATHEMATICS TEST 5

Quantitative Comparisons

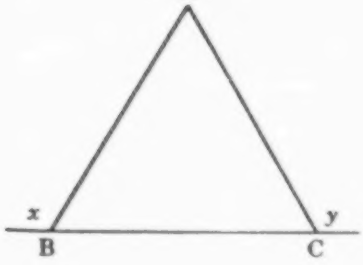
35 Minutes 28 Questions

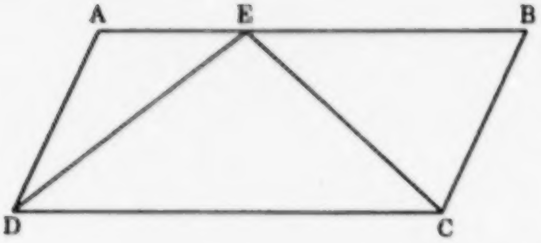
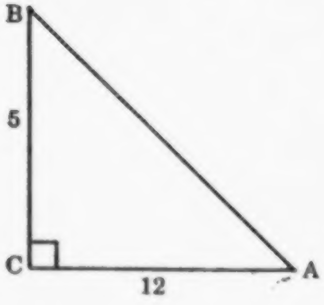
Common Information: *In each question, information concerning one or both of the quantities to be compared is given in the ITEM column. A symbol that appears in any column represents the same thing in Column A as it does in Column B.*

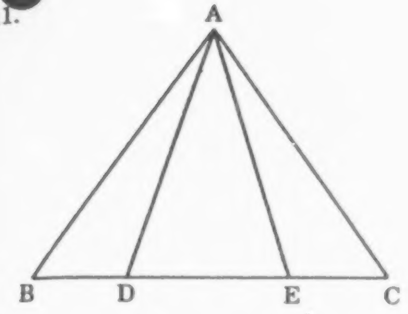
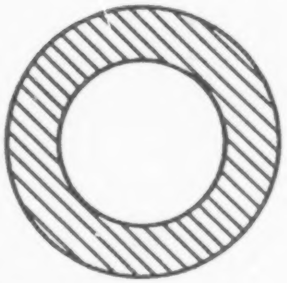
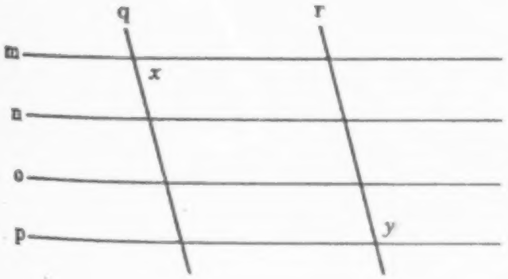
FIGURES: Assume that the position of points, angles, regions, and so forth, are in the order shown; that the lines shown as straight are indeed straight; that figures lie in a plane unless otherwise indicated. Figures accompanying questions are intended to provide information you can use in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve the problems by using your knowledge of mathematics, NOT by estimating sizes by sight or by measurement.

Directions: *For each of the following questions, two quantities are given: one in Column A and one in Column B. Compare the two quantities and mark your answer sheet with the correct, lettered conclusion. These are your options:*

A: if the quantity in Column A is the greater;
B: if the quantity in Column B is the greater;
C: if the two quantities are equal;
D: if the relationship cannot be determined from the information given.

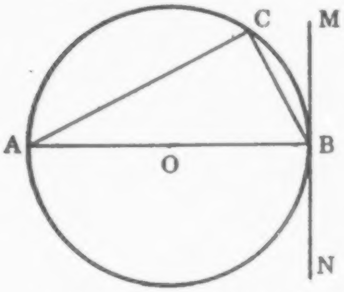
	ITEM	Column A	Column B
1.	 Isosceles △ABC $\angle CAB = \angle ACB$	$\angle x$	$\angle y$

ITEM	Column A	Column B
2.  Parallelogram ABCD E a point on AB	Area of △DEC	Area of △AED + Area △EBC
3. $x = -1$	$x^3 + x^2 - x + 1$	$x^3 - x^2 + x - 1$
4.	The edge of a cube whose volume is 27.	The edge of a cube whose total surface area is 54.
5.	$\dfrac{\frac{1}{2} + \frac{1}{3}}{\frac{2}{3}}$	$\dfrac{\frac{2}{3}}{\frac{1}{2} + \frac{1}{3}}$
6. x is a given number.	Area of a circle radius $= x^3$	Area of a circle radius $= 3x$
7.	$\frac{1}{4}^{-2}$	4^2
8.	0.02	$\sqrt{0.02}$
9.  Right △ABC	$(AB)^2$	$(AC)^2 + 5(CB)$
10.	Area of circle with radius 7.	Area of equilateral triangle with side 14.

	ITEM	Column A	Column B
11.	 ∠ADE > ∠AED	B	∠C
12.	 Radius of large circle = 10 Radius of small circle = 7	Area of shaded portion.	Area of small circle.
13.	 m ∥ n ∥ o ∥ p and q ∥ r	∠x	∠y
14.	$a < 0 < b$	a^2	$b/2$
15.	$t < 0 < r$	t^2	r

ITEM	Column A	Column B

Diagram for problems 16-20

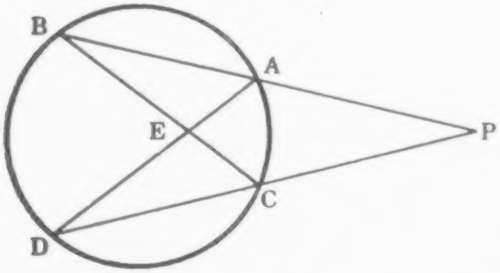


MN tangent to circle O

at point B and ∠A = 30°

ITEM	Column A	Column B
16.	m ∠ACB	m ∠NBO
17.	arc CB	arc AC
18.	m ∠CBM	m ∠CAB
19.	m ∠CBA	m ∠CBM
20.	$\overline{AO} + \overline{AC}$	$\overline{BO} + \overline{BC}$

Diagram for problems 21-25



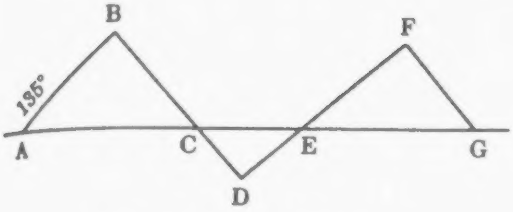
$\overline{AB} = \overline{CD}$

arc BD = 160°

arc AC = 40°

ITEM	Column A	Column B
21.	m ∠APC	m ∠ABC
22.	m ∠BED	m ∠BEA
23.	m ∠BAD	m ∠DCB
24.	m ∠BCP	m ∠AEC + m ∠ADC
25.	arc DC + AC	arc BD

ITEM	Column A	Column B
26.	75% of $\frac{3}{4}$	0.09×6
27.	4% of 0.003	3% of 0.004
28.	$\angle BCA$	$\angle FEG$



Intersecting straight lines

$AB \perp CB$, $CD = ED$

Answer Key

1. D
2. C
3. A
4. C
5. A
6. D
7. C
8. C
9. C
10. A
11. D
12. A
13. D
14. D
15. D
16. C
17. B
18. C
19. A
20. A
21. A
22. A
23. C
24. B
25. B
26. A
27. C
28. C

Explanatory Answers

1. **(D)** The value of $\angle x$ or $\angle y$ cannot be determined unless the measure of at least one angle is known.

2. **(C)** Area of $\triangle$DEC = $\frac{1}{2}$ *base* × *height.*
Area of parallelogram = *base* × *height.*
Area of $\triangle$ADE + $\triangle$EBC = area of the whole parallelogram − $\triangle$DEC = *base* × *height* − $\frac{1}{2}$ *base* × *height* = $\frac{1}{2}$ *base* × *height.*

3. **(A)**

$$\begin{aligned} x^3 + x^2 - x + 1 &= (-1)^3 + (-1)^2 - (-1) + 1 \\ &= -1 + 1 + 1 + 1 \\ &= 2 \\ x^3 - x^2 + x - 1 &= (-1)^3 - (-1)^2 + (-1) - 1 \\ &= -1 -1 -1 -1 \\ &= -4 \end{aligned}$$

4. **(C)** A cube has six surfaces, each one's area e^2

$$\begin{aligned} e^3 &= 27 & 6e^2 &= 54 \\ e &= 3 & e^2 &= 9 \\ & & e &= 3 \end{aligned}$$

5. **(A)**

$$\frac{1/2 + 1/3}{2/3} = \frac{\frac{3+2}{6}}{2/3} = \frac{5/6}{2/3} = \frac{\frac{15}{12}}{1} = \frac{15}{12}$$

$$\frac{2/3}{1/2 + 1/3} = \frac{2/3}{\frac{3+2}{6}} = \frac{2/3}{5/6} = \frac{\frac{12}{15}}{1}$$ multiply numerator and denominator by $\frac{6}{6}$

$$= \frac{12}{15}$$

$$\frac{15}{12} > \frac{12}{15}$$

6. **(D)** Area of circle $x^3 = \pi(x^3)^2$
$= \pi x^6$
Area of circle radius $3x = \pi(3x)^2$
$= 9\,\pi x^2$
We cannot know whether πx^6 or $9\pi x^2$ is larger unless we know the value of x.

7. **(C)**

$$(1/4)^{-2} = \frac{1}{(1/4)^2} = \frac{1}{\frac{1}{16}} = 16 \qquad 4^2 = 16$$

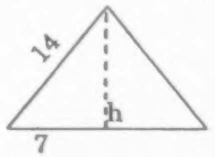
8. **(B)**

$$0.02 = \sqrt{0.0004}$$
$$\sqrt{0.02} > \sqrt{0.0004}$$

9. **(C)** By the Pythagorean theorem,
$(AB)^2 = (AC)^2 + (BC)^2$
However,
$(BC)^2 = 5^2 = 25$ and $5CB = 5 \cdot 5 = 25$
Therefore, $(BC)^2 = 5CB$
$(AB)^2 = (AC)^2 + 5CB$
(Substituting 5CB for $(BC)^2$ in the Pythagorean theorem)

10. **(A)** Area of circle radius 7 = $\pi r^2 = \pi\,(7)^2 = 49\,\pi$

Area of equilateral $\triangle$ with side of 14:



A line from one vertex to the midpoint of the opposite side is perpendicular to the opposite side. It is, therefore, the height of the triangle. Let the length of this line be h. Then, by the Pythagorean theorem, $7^2 + h^2 = 14^2$.
$h^2 = 14^2 - 7^2 = 14$
$h^2 = 3 \times 7 \times 7$
$h = 7\sqrt{3}$

Area of $\triangle$ = $\frac{1}{2}$ *base* × *height*
= $\frac{1}{2}\,(14)\,(7\sqrt{3})$
Area of $\triangle$ = $(7)\,7\sqrt{3}$
= $49\,\sqrt{3}$

Is $49\,\pi$ bigger than $49\,\sqrt{3}$?
$\pi = 3.14$
Therefore, $\pi > \sqrt{3}$

Therefore; $49\,\pi > 49\,\sqrt{3}$ and A > B

11. **(D)** Not enough information is given to determine the values of the angles.

12. **(A)** $\begin{pmatrix}\text{Area of}\\ \text{shaded}\\ \text{portion}\end{pmatrix} = \begin{pmatrix}\text{Area of}\\ \text{larger}\\ \text{circle}\end{pmatrix} - \begin{pmatrix}\text{Area of}\\ \text{smaller}\\ \text{circle}\end{pmatrix}$

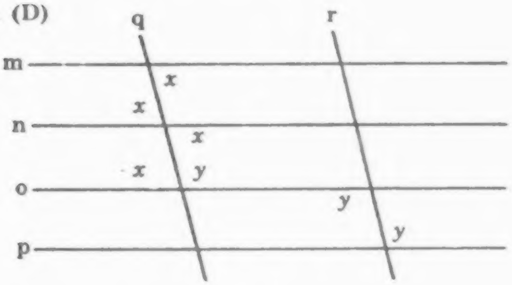
$$= (10^2) - (7^2)$$
$$= 100 - 49$$
$$= 51$$

$\begin{pmatrix}\text{Area of}\\ \text{smaller}\\ \text{circle}\end{pmatrix} = r^2$

$$= (7^2)$$
$$= 49$$

$51 > 49$

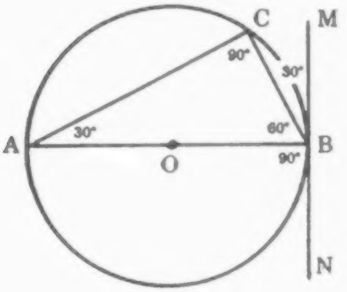
13. **(D)**



All that can be determined is that x and y are supplementary.

14. **(D)** There is insufficient information to determine an answer.

15. **(D)** There is insufficient information to determine an answer.



16. **(C)** m ∠ACB = 90° m ∠NBO = 90°

A tangent to a circle is perpendicular to the radius of the circle at their point of contact. An inscribed angle is equal to one-half its intercepted arc. Therefore m ∠ACB = 90°.

17. **(B)** arc AC = 120° arc CB = 60

An inscribed angle is equal to one-half its intercepted arc.

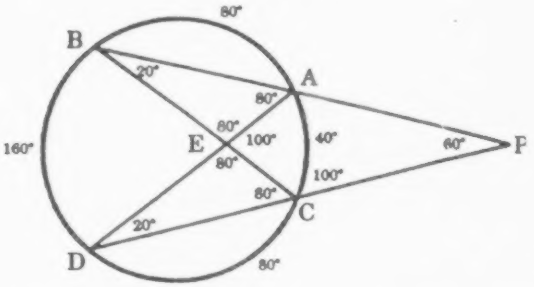
18. **(C)** m ∠CBM = 30° m ∠CAB = 30

19. **(A)** m ∠CBA = 60° m ∠CBM = 30

20. **(A)** $\overline{AO} = \overline{BO}$ all radii in the same circle are equal.

$\overline{AC} > \overline{BC}$ in a triangle the greater side lies opposite the greater angle.

$\overline{AO} + \overline{AC} > \overline{BO} + \overline{BC}$



21. **(A)** m ∠APC = 60° m ∠ABC = 20°

22. **(A)** m ∠BED = 100° m ∠BEA = 80°

23. **(C)** m ∠BAD = 80° m ∠DCB = 80°

24. **(B)** m ∠BCP = 100°
m ∠AEC + m ∠ADC = 100° + 20°
= 120°

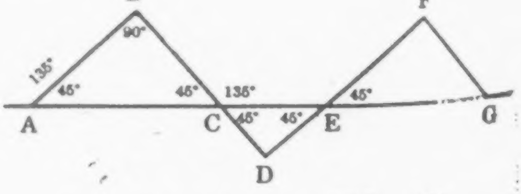
25. **(B)** arc DC + arc AC = 80° + 40° = 120°
arc BD = 160°

26. **(A)** 75% of $\frac{3}{4}$ = .75 × .75 .09 × 6 = .54
= .5625

27. **(C)** 4% of 0.003 = 0.04 × .003
= 0.00012

3% of 0.004 = 0.03 × 0.004
= 0.00012

28. **(C)**



∠BCA = 45° ∠FEG = 45°

MATHEMATICS TEST 6

Quantitative Comparisons

15 Minutes　　12 Questions

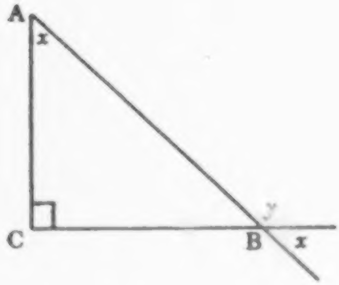
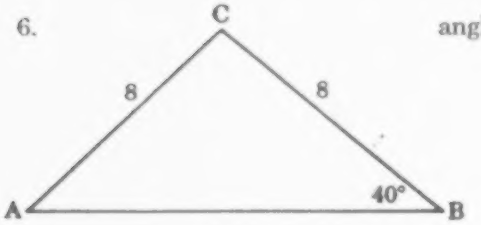
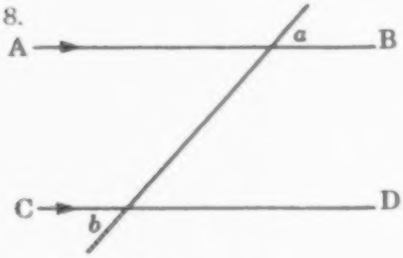
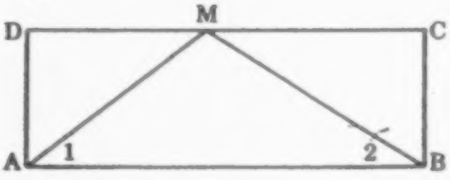
Common Information: *In each question, information concerning one or both of the quantities to be compared is given in the ITEM column. A symbol that appears in any column represents the same thing in Column A as it does in Column B.*

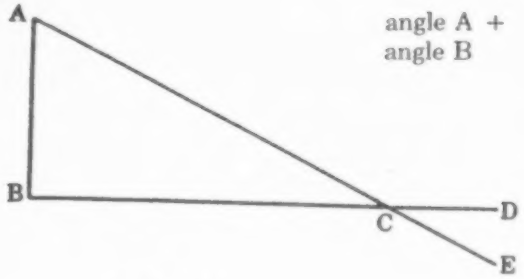
FIGURES: Assume that the position of points, angles, regions, and so forth, are in the order shown; that the lines shown as straight are indeed straight; that figures lie in a plane unless otherwise indicated. Figures accompanying questions are intended to provide information you can use in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve the problems by using your knowledge of mathematics, and NOT by estimating sizes by sight or by measurement.

DIRECTIONS: *For each of the following questions, two quantities are given: one in Column A and one in Column B. Compare the two quantities and mark your answer sheet with the correct lettered conclusion. These are your options:*

A: if the quantity in Column A is the greater;
B: if the quantity in Column B is the greater;
C: if the two quantities are equal;
D: if the relationship cannot be determined from the information given.

	ITEM	Column A	Column B
1.	$a > 0$ $x > 0$	$a + x$	$a - x$
2.		The average of 17, 19, 21, 23, 25	The average of 16, 18, 20, 22, 24

	ITEM	Column A	Column B
3.		$2x$	y
4.	$0 < a < 12$ $0 < b < 12$	a	b
5.	$4a - 4b = 20$	a	b
6.		angle A	angle B
7.	$a/9 = b^2$	a	b
8.	 AB ∥ CD	a	b
9.		$3 + 24(3 - 2)$	$27 + 5(0)(5)$
10.	 $\angle 1 > \angle 2$	AM	BM

	ITEM	Column A	Column B
11.	 $\angle B > \angle A$ $\angle ACB < \angle A + \angle B$	angle A + angle B	angle ACD
12.		$(\frac{2}{3})^2(3)^3$	$(3)^2(\frac{2}{3})^3$

Answer Key

1. **A**
2. **A**
3. **B**
4. **D**
5. **A**
6. **C**
7. **D**
8. **C**
9. **C**
10. **B**
11. **C**
12. **A**

Explanatory Answers

1. **(A)** The statement $a > o$ and $x > o$ implies both a and x are positive. The sum of two positive numbers is always greater than their difference.

2. **(A)** The averages of Column A and Column B are 21 and 20 respectively.

3. **(B)** Angle ABC = x (vertical angles are equal). Since $\angle C = 90°$, $\angle A + \angle ABC = 90°$ (180° in a $\triangle$). Therefore, $2x = 90°$, and $x = 45°$. Angle ABC and $\angle y$ are supplementary; hence $y = 135°$. Therefore, $y > 2x$.

4. **(D)** Impossible to determine because a could be any number between 0 and 12 and b any number between 0 and 10.

5. **(A)** $4a - 4b = 20$

   $a - b = 5$

   $a - 5 = b$

   For all values of a and b, $a > b$.

6. **(C)** Angles opposite equal sides of a triangle are equal.

7. **(D)** Impossible to determine because b could be positive or negative.

8. **(C)** If two parallel lines are cut by a transversal, the alternate exterior angles are equal.

9. **(C)** Column A and Column B both equal 27.

10. **(B)** The greater side lies opposite the greater angle.

11. **(C)** The exterior angle of a triangle is equal to the two interior nonadjacent angles.

12. **(A)** The value of Column A is 12 and the value of Column B is $2\frac{2}{3}$. Therefore, A > B.

MATHEMATICS TEST 7

Quantitative Comparisons

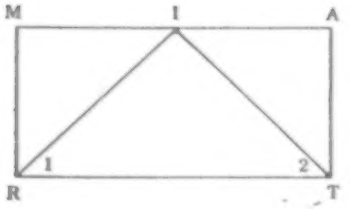
30 Minutes **20 Questions**

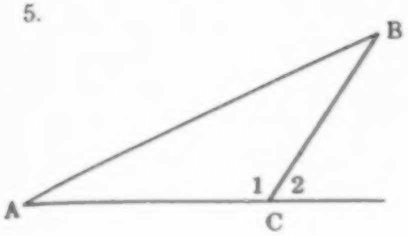
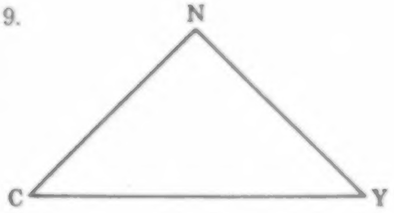
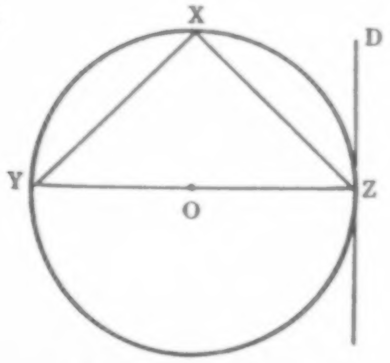
Common Information: *In each question, information concerning one or both of the quantities to be compared is given in the ITEM column. A symbol that appears in any column represents the same thing in Column A as it does in Column B.*

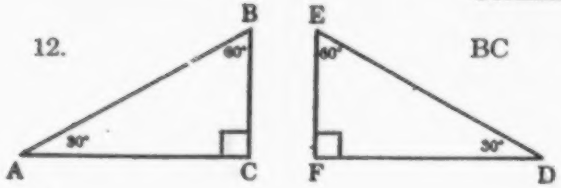
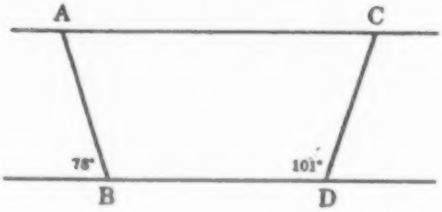
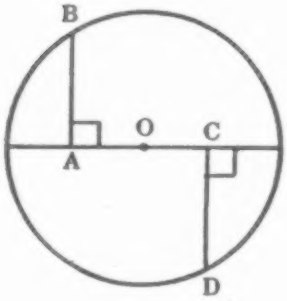
FIGURES: Assume that the position of points, angles, regions, and so forth, are in the order shown; that the lines shown as straight are indeed straight; that figures lie in a plane unless otherwise indicated. Figures accompanying questions are intended to provide information you can use in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve the problems by using your knowledge of mathematics, NOT by estimating sizes by sight or by measurement.

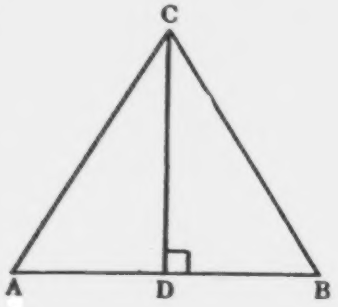
Directions: *For each of the following questions, two quantities are given: one in Column A and one in Column B. Compare the two quantities and mark your answer sheet with the correct, lettered conclusion. These are your options:*

- *A: if the quantity in Column A is the greater;*
- *B: if the quantity in Column B is the greater;*
- *C: if the two quantities are equal;*
- *D: if the relationship cannot be determined from the information given.*

	ITEM	Column A	Column B
1.		5% of 34	The number that 34 is 5% of
2.	 $\angle 1 < \angle 2$	IR	IT
3.	$4 > x > -3$	$x/3$	$3/x$

	ITEM	Column A	Column B
4.		$\frac{2}{3} + \frac{3}{7}$	$\frac{16}{21} - \frac{3}{7}$
5.	 $\angle A > \angle B$ $\angle 1 < \angle A + \angle B$	$\angle A + \angle B$	$\angle 2$
6.	y = an odd integer	The numerical value of y^2	The numerical value of y^3
7.		$8 + (6 \div 3) - 7(2)$	$6 + (8 \div 2) - 7(3)$
8.		$\frac{3}{4}$ of $\frac{9}{9}$	$\frac{9}{9} \times \frac{3}{4}$
9.	 NC = NY $\angle N > \angle C$	NC	CY
10.	 $\triangle XYZ$ is inscribed in circle 0 and DZ is tangent to circle 0.	$\angle YXZ$	$\angle DZY$
11.		A given chord in a given circle.	The radius of the same circle.

		Column A	Column B
12.	 B E 60° 60° 30° 30° A C F D	BC	FD
13.		$4 + (3 \times 2) - 7$	$(8 \div 2) + 3 - 1$
14.		50% of $\frac{4}{5}$	$\frac{4}{5}$ of $\frac{1}{2}$
15.	 AC∥BD	AB	CD
16.		$0.01 \div .1$	$0.01 \times .1$
17.	 OA > OC	AB	CD

	ITEM	Column A	Column B
18.		The number that 6 is 20% of	10% of 300
19.	$3x + 2y = -1$ $2x + 3y = 1$	The numerical value of x	The numerical value of y
20.	 $CD \perp AB$ $\angle A > \angle B$	AC	CB

Answer Key

1. B
2. A
3. D
4. A
5. C
6. D
7. A
8. C
9. B
10. C
11. D
12. D
13. B
14. C
15. A
16. A
17. B
18. C
19. B
20. B

Explanatory Answers

1. **(B)** 5% of 34 = 34 × 0.05 = 1.7
The number that 34 is 5% of =
5% of $n = 34$
$0.05\,n = 34$

$$n = \frac{34}{0.05}$$

$$n = 0.05.\curvearrowright \quad \begin{array}{r} 680. \\ \hline 34.00. \\ 30 \\ \hline 40 \\ 40 \\ \hline 00 \\ 00 \\ \hline \end{array}$$

$n = 680$
$680 > 1.7$

2. **(A)** In a triangle the greater side lies opposite the greater angle. ∠2 > ∠1 (given)
IR > IT

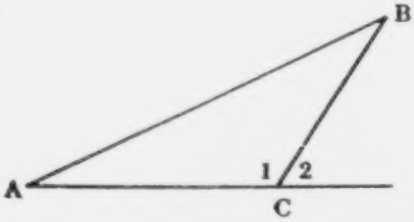
3. **(D)** Since x could be any number from −3 to 4, the values of the fractions are impossible to determine.

4. **(A)** $\frac{2}{3} + \frac{3}{7} = \frac{14}{21} + \frac{9}{21}$

$$= \frac{23}{21}$$

$$\frac{16}{21} - \frac{3}{7} = \frac{16}{21} - \frac{9}{21}$$
$$= \frac{7}{21}$$

5. **(C)**



∠2 = ∠A + ∠B (an exterior angle of a triangle is equal to the sum of the two interior remote angles)

6. **(D)** There is not enough information given; y could equal 1, which would make both quantities equal; or y could be greater than 1, which would make y^3 greater than y^2. If y were a negative integer, then y^2 would be greater than y^3.

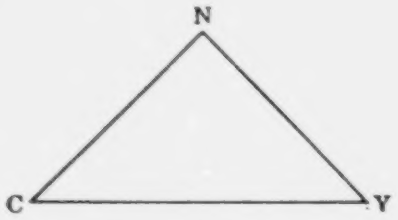
7. **(A)** $8 + (6 \div 3) - 7(2) = 8 + 2 - 14$
$= 10 - 14$
$= -4$

$6 + (8 \div 2) - 7(3) = 6 + 4 - 21$
$= 10 - 21$
$= -11$

8. **(C)** $\frac{3}{4} \cdot \frac{9}{9} = \frac{3}{4}$

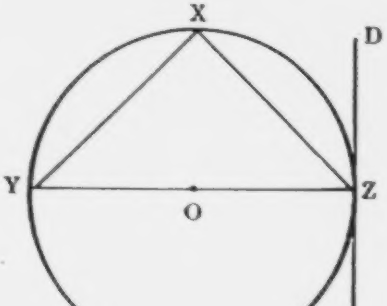
$\frac{9}{9} \cdot \frac{3}{4} = \frac{3}{4}$

9. **(B)**



NC = NY given
∠C = ∠Y angles opposite equal sides are equal
∠N > ∠C given
∠N > ∠Y substitution
CY > NC the greater side lies opposite the greater angle

10. **(C)**



∠YXZ = 90° an angle inscribed in a semicircle equals 90°
∠DZY = 90° a radius is perpendicular to a tangent at their point of contact

11. **(D)** Impossible to determine from the information given. The radius could be less than, equal to, or greater than the chord.

BEST COPY AVAILABLE

12. **(D)** Since there are three unknown sides on both triangles, the length of BC or FD is impossible to determine.

13. **(B)** $4 + 3 \times 2 - 7 = 4 + 6 - 7$
$= 10 - 7$
$= 3$
$8 \div 2 + 3 - 1 = 4 + 3 - 1$
$= 7 - 1$
$= 6$

14. **(C)** $50\% \text{ of } \frac{4}{5} = \frac{1}{2} \times \frac{4}{5}$
$= \frac{2}{5}$
$\frac{4}{5} \text{ of } \frac{1}{2} = \frac{4}{5} \times \frac{1}{2}$
$= \frac{2}{5}$

15. **(A)** The shortest line between two parallel lines is a line perpendicular to both lines. Therefore if there are two transversals between parallel lines, the one whose angle of intersection with the parallel lines is further from 90° is the longer transversal.
$\angle B = 90^\circ - 78^\circ = 12^\circ$
$\angle D = 101^\circ - 90^\circ = 11^\circ$
$\therefore AB > CD$

16. **(A)** $0.01 \div 0.1 = 0.1$
$0.01 \times 0.1 = 0.001$

17. **(B)** If two perpendiculars are drawn from the circumference of a circle to a diameter of th same circle the one that is closer to the cente the circle will be longer.

18. **(C)** The number that 6 is 20% of:
$20\% \text{ of } n = 6$
$0.20n = 6$
$n = 6 \div 0.2$
$n = 30$
$10\% \times 300$:
0.10×300
$= 30$

19. **(B)** $3(3x + 2y = -1)$
$\underline{2(2x + 3y = 1)}$
$9x + 6y = -3)$
$4x + 6y = 2)$
$5x = -5)$
$x = -1)$

$3x + 2y = -1$
$3(-1) + 2y = -1$
$-3 + 2y = -1$
$2y = 2$
$y = 1$

20. **(B)** $\angle A > \angle B$ given

$CB > AC$ In a triangle the greater side lies opposite the greater angle

Answer Sheet
Final Mathematics Examination

PART ONE
GENERAL MATHEMATICS

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. Ⓐ Ⓑ Ⓒ Ⓓ
16. Ⓐ Ⓑ Ⓒ Ⓓ
17. Ⓐ Ⓑ Ⓒ Ⓓ
18. Ⓐ Ⓑ Ⓒ Ⓓ
19. Ⓐ Ⓑ Ⓒ Ⓓ
20. Ⓐ Ⓑ Ⓒ Ⓓ
21. Ⓐ Ⓑ Ⓒ Ⓓ
22. Ⓐ Ⓑ Ⓒ Ⓓ
23. Ⓐ Ⓑ Ⓒ Ⓓ
24. Ⓐ Ⓑ Ⓒ Ⓓ
25. Ⓐ Ⓑ Ⓒ Ⓓ
26. Ⓐ Ⓑ Ⓒ Ⓓ
27. Ⓐ Ⓑ Ⓒ Ⓓ
28. Ⓐ Ⓑ Ⓒ Ⓓ
29. Ⓐ Ⓑ Ⓒ Ⓓ
30. Ⓐ Ⓑ Ⓒ Ⓓ
31. Ⓐ Ⓑ Ⓒ Ⓓ
32. Ⓐ Ⓑ Ⓒ Ⓓ
33. Ⓐ Ⓑ Ⓒ Ⓓ
34. Ⓐ Ⓑ Ⓒ Ⓓ
35. Ⓐ Ⓑ Ⓒ Ⓓ
36. Ⓐ Ⓑ Ⓒ Ⓓ
37. Ⓐ Ⓑ Ⓒ Ⓓ
38. Ⓐ Ⓑ Ⓒ Ⓓ
39. Ⓐ Ⓑ Ⓒ Ⓓ
40. Ⓐ Ⓑ Ⓒ Ⓓ

PART TWO
QUANTITATIVE COMPARISONS

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. Ⓐ Ⓑ Ⓒ Ⓓ
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. Ⓐ Ⓑ Ⓒ Ⓓ
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. Ⓐ Ⓑ Ⓒ Ⓓ
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. Ⓐ Ⓑ Ⓒ Ⓓ
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ

FINAL MATHEMATICS EXAMINATION

60 Minutes 54 Questions

Part I–General Mathematics

40 Minutes 42 Questions

1. Jane Doe borrowed $225,000 for five years at $13\frac{1}{2}$ percent. The annual interest charge was

(A) $1667
(B) $6000
(C) $30,375
(D) $39,375

2. A junior salesman gets a commission of 14 percent on his sales. If he wants his commission to amount to $140, he will have to sell merchandise totaling

(A) $1960
(B) $10
(C) $1000
(D) $100

3. On a list price of $200, the difference between a single discount of 25 percent and successive discounts of 20 percent and 5 percent is

(A) $0
(B) $48
(C) $8
(D) $2

4. A worked five days on overhauling an old car. B worked four days more to finish the job. After the sale of the car, the net profit was $243. They wanted to divide the profit on the basis of the time spent by each. A's share of the profit was

(A) $108
(B) $135
(C) $127
(D) $143

5. If cloth costs $42\frac{1}{2}$ cents per yard, how many yards can be purchased for $76.50?

(A) 220
(B) 180
(C) 190
(D) 230

6. A fashionable dress shop offers a 20 percent discount on selected items. For a dress marked at $280, what is the discount price?

(A) $224.00
(B) $232.00
(C) $248.00
(D) $261.00

7. If A takes six days to do a task and B takes three days to do the same task, working together they should do the same task in

(A) $2\frac{2}{3}$ days
(B) 2 days
(C) $2\frac{1}{3}$ days
(D) $2\frac{1}{2}$ days

8. The area of a mirror 40 inches long and 20 inches wide is approximately

(A) 8.5 square feet
(B) 5.5 square feet
(C) 8.0 square feet
(D) 2.5 square feet

9. $\frac{2}{3}$ plus $\frac{1}{8}$ equals

(A) $\frac{37}{72}$
(B) $\frac{82}{72}$
(C) $\frac{3}{11}$
(D) $\frac{19}{24}$

10. A student has received two grades of 90 and two grades of 80 in an English course. Assuming the grades are weighed equally, what is the student's average for the course?

(A) 90
(B) 87
(C) 85
(D) 84

11. If a man has only quarters and dimes totaling $2.00, the number of quarters *cannot* be

(A) 2
(B) 4
(C) 6
(D) 3

12. The number that increased by one-sixth of itself yields 182 is

(A) 156
(B) 176
(C) 148
(D) 160

13. $0.16\frac{3}{4}$ written as a percent is

(A) $16\frac{3}{4}$ percent
(B) $16.\frac{3}{4}$ percent
(C) $0.016\frac{3}{4}$ percent
(D) $0.0016\frac{3}{4}$ percent

14. $40 reduced [illegible] three-eighths of itself is

(A) $25
(B) $65
(C) $15
(D) $55

15. $1296.53 minus $264.87 is

(A) $1232.76
(B) $1032.76
(C) $1031.66
(D) $1132.53

16. $12\frac{1}{2}$ minus $6\frac{1}{4}$ is

(A) $5\frac{3}{4}$
(B) $6\frac{1}{4}$
(C) $6\frac{1}{2}$
(D) $5\frac{1}{2}$

17. Men's handkerchiefs cost $1.29 for three. The cost per dozen handkerchiefs is

(A) $7.74
(B) $3.87
(C) $14.48
(D) $5.16

18. Add: $\frac{1}{4}$, $\frac{7}{12}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{6}$.

(A) $2\frac{1}{2}$
(B) $2\frac{13}{24}$
(C) $2\frac{3}{4}$
(D) $2\frac{15}{24}$

19. A floor is 25 feet wide by 36 feet long. To cover this floor with carpet will require

(A) 100 square yards
(B) 300 square yards
(C) 900 square yards
(D) 25 square yards

20. 72 divided by 0.0009 is

(A) 0.125
(B) 800
(C) 80,000
(D) 80

21. 345 safety pins at $4.15 per hundred will cost

(A) $0.1432
(B) $1.4320
(C) $14.32
(D) $143.20

22. The number that decreased by one-fifth of itself yields 132 is

(A) 165
(B) 198
(C) 98
(D) 88

23. 285 is 5 percent of

(A) 1700
(B) 7350
(C) 1750
(D) 5700

24. A store sold jackets for \$65 each. The jackets cost the store \$50 each. The percentage of increase of selling price over cost is

(A) 40 percent
(B) $33\frac{1}{2}$ percent
(C) $33\frac{1}{3}$ percent
(D) 30 percent

25. The denominator of a fraction is 20 more than the numerator. What is the numerator if the fraction is equivalent to $\frac{3}{5}$.

(A) 12
(B) 30
(C) -50
(D) 10

26. Which statement below is true about the inequality of $2 < x \leq 7$.

(A) $X < 2$
(B) $X = 2$
(C) X is greater than 7
(D) $X > 2$

27. $\frac{x}{5} - 4 = 11$. Find the value of x.

(A) 75
(B) 3
(C) 35
(D) 59

28. A punch recipe for a half gallon (64 ounces) of punch requires one pint (16 ounces) of grape juice. How many quarts (1 quart = 32 ounces) of grape juice are required for $2\frac{1}{2}$ gallons of the punch.

(A) 5 quarts
(B) 10 quarts
(C) $1\frac{1}{4}$ quarts
(D) $2\frac{1}{2}$ quarts

29. Mrs. Bowler got up at 7:00 A.M. last Wednesday morning and went to bed at 11:00 P.M. Wednesday night. During the time that she was up, she spent $\frac{1}{2}$ her time at work, $\frac{1}{8}$ her time bowling with friends, and $\frac{1}{4}$ her time with her family. How much time did she have left for other activities?

(A) 2 hours
(B) 4 hours
(C) 1 hour
(D) 8 hours

30. If 24 percent of the students who enrolled in an algebra class of 50 students dropped the course before the semester ended, how many students remained in the class?

(A) 27
(B) 76
(C) 12
(D) 38

31. How many $\frac{3}{4}$-gram tablets are needed for a dosage of $4\frac{1}{2}$ grams?

(A) 3.75
(B) 1.5
(C) 6
(D) 3

32. $3.6 - 1.2(.8 - .3) + 8 \div .4 =$

(A) 23
(B) 20.5
(C) 50
(D) 3.2

33. Find .2 percent of 400.

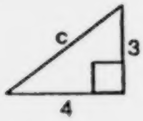
(A) 80
(B) 800
(C) .8
(D) 2000

34. What percent of a circle is a central angle of 72°?

(A) 5 percent
(B) 20 percent
(C) 72 percent
(D) 1/5 percent

35. Find the length of the hypotenuse in the triangle below.

(A) 7
(B) 5
(C) 25
(D) 6

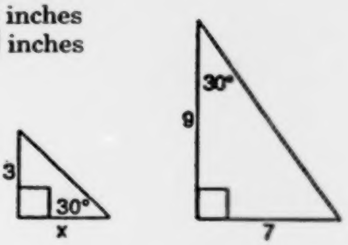


36. What is the width of a rectangle with an area of 63 square feet and a length of 9 feet?

(A) 22.5 feet
(B) 7 feet
(C) 567 feet
(D) 144 feet

37. If the triangles below are similar, find the length of side x

(A) 21 inches
(B) 11 inches
(C) 13 inches
(D) $3\frac{6}{7}$ inches



38. If two lines are parallel, the following statements are true:

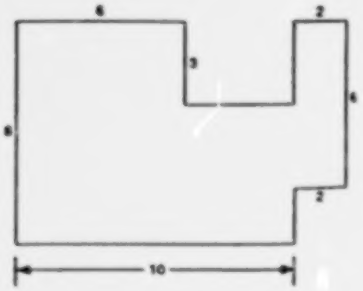
(A) The two lines have equal slopes.
(B) The two lines have one point in common.
(C) The product of the slopes of the lines is –1.
(D) The two lines form right angles.

39. If the area of a square is 144 m^2, what is the length of a side of the square?

(A) 12 m
(B) 12 m^2
(C) 72 m
(D) 72 m^2

40. Find the area of the figure below.

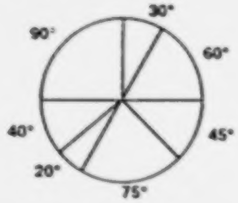
(A) 40 m
(B) 46 m
(C) 80 m^2
(D) 96 m^2



Consider the circle with central angles shown below:

41. What percent of the circle does the central angle of 60° represent? (give answer to the nearest degree)

(A) 6%
(B) 60%
(C) 17%
(D) 25%



42. If $\frac{1}{12}$ of a family's weekly budget is spent on entertainment and $\frac{1}{8}$ of the budget is spent on gasoline, which central angle represents the total spent on entertainment and gasoline?

(A) 20
(B) 45
(C) 90
(D) 75

Part II—Quantitative Comparisons

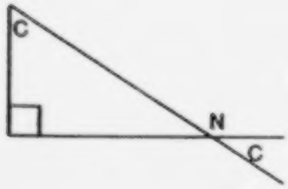
15 Minutes 12 Questions

Common Information: *In each question, information concerning one or both of the quantities to be compared is given in the ITEM column. A symbol that appears in any column represents the same thing in column A as it does in column B.*

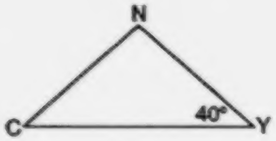
FIGURES: Assume that the position of points, angles, regions, and so forth, are in the order shown; that the lines shown as straight are indeed straight; that figures lie in a plane unless otherwise indicated. Figures accompanying questions are intended to provide information you can use in answering the questions. However, unless a note states that a figure is drawn to scale, you should solve the problems by using your knowledge of mathematics, and NOT by estimating sizes by sight or by measurement.

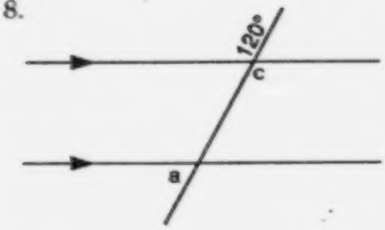
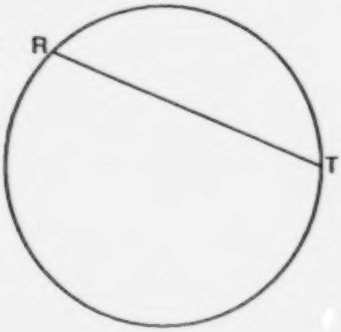
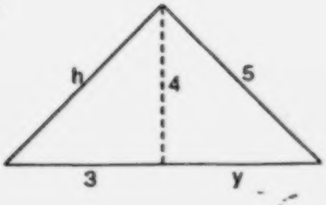
Directions: *For each of the following questions two quantities are given: one in Column A and one in Column B. Compare the two quantities and mark your answer sheet with the correct, lettered conclusion. These are your options:*

A: if the quantity in Column A is the greater;
B: if the quantity in Column B is the greater;
C: if the two quantities are equal;
D: if the relationship cannot be determined from the information given.

	ITEM	*Column A*	*Column B*
1.	$n < 0$ $a < 0$	$n + a$	$n - a$
2.		The average of: 22, 24, 26, 28, 30	The average of: 17, 19, 21, 23, 25, 27, 29, 31, 33
3.		N − C	90°
4.	$0 < y < 5$ $0 < n < 7$	y	n
5.	$5n - 5a = 25$	n	a

BEST COPY AVAILABLE

6. In isosceles △NCY: 	C	Y
7. $\frac{m}{2} = c^2$	m	c

ITEM	*Column A*	*Column B*
8. 	c	a
9. 	arc RT	chord RT
10.	$5 + 16(3 - 2)$	$21 + 5 - 3(4 - 3)(0)$
11.	$8[2x - 3(4x - 6) - 9]$	$6[3x - 2(6x - 3) + 2]$
12. 	h	y

Answer Key

Part I

1. C
2. C
3. D
4. B
5. B
6. A
7. B
8. B
9. D
10. C
11. D
12. A
13. A
14. A
15. C
16. B
17. D
18. B
19. A
20. C
21. C
22. A
23. D
24. D
25. B
26. D
27. A
28. D
29. A
30. D
31. C
32. A
33. C
34. B
35. B
36. B
37. D
38. A
39. A
40. C
41. C
42. D

Part II

1. B
2. A
3. C
4. D
5. A
6. D
7. D
8. A
9. A
10. B
11. D
12. A

Explanatory Answers

Part I

1. **(C)** $I = P \times R \times T$
$= \$225{,}000 \times 0.135 \times 1$ (year)
$= \$30{,}375$

2. **(C)**
14% of $x = \$140$ Let x be
$0.04 \times x = \$140$ the total sales
$x = 1000$ divide by 0.04

3. **(D)** 25% of \$200 = .25 × \$200 = \$50

Next, first find 20% discount on \$200:

0.20 × \$200 = \$40

The list price is \$200 − \$40 = \$160
Now take 5% of \$160:

0.05 × \$160 = \$8

The discount is \$48 when taken at 20% and 5% successively.
\$50 − \$48 = \$2.

4. **(B)** The job took 9 days to complete.

A worked 5 days: he completed $\frac{5}{9}$ of the work.
B worked 4 days: he completed $\frac{4}{9}$ of the work.

If the net profit was \$243, then

A received $\frac{5}{9} \times \$243 = \$135$

5. **(B)** $\$76.50 \div 42\frac{1}{2}$¢/yard
($42\frac{1}{2}$¢ = \$0.425)
= \$76.50 ÷ \$0.425/yard
= 180 yards

6. **(A)** Discount = 20%
Sale price = 80%

0.80 of \$280.00 = \$224.00

7. **(B)** $\frac{n}{6} + \frac{n}{3} = 1$

$n + 2n = 6$ multiply by 6
$3n = 6$ combine like terms
$n = 2$ divide by 3

8. **(B)** Area of a rectangle is
A = *length* × *width*
= 40 inches × 20 inches
= 800 square inches

Note: 1 square foot = 144 square inches
800 square inches

$$\frac{800 \text{ square inches}}{144 \text{ square inches}} = 5.5 \text{ square feet}$$

9. **(D)**

$$\begin{array}{rcl} & \frac{2}{3} \times \frac{8}{8} = \frac{16}{24} & \text{lowest common denominator is 24} \\ + & \frac{1}{8} \times \frac{3}{3} = \frac{3}{24} & \\ \hline & = \frac{19}{24} & \end{array}$$

10. **(C)** To arrive at the average, add all numbers and divide by total number of grades.

$$\begin{array}{r} 80 \\ 80 \\ 90 \\ \underline{90} \\ 340 \div 4 = 85 \end{array}$$

11. **(D)** The number of quarters must be even; otherwise, adding dimes will not give \$2.00 *exactly*.
So the answer cannot be 3, choice (D).

3 × 25¢ = 75¢ or 0.75
\$2.00 − 0.75 = \$1.25
\$1.25 cannot be changed to all dimes.

12. **(A)** Let the *number* be x. A *number* increased by $\frac{1}{6}$ of itself is 182. To put this in equation form:

$x + \frac{1}{6x} = 182$
$6x + x = 1092$ Multiply each term by 6
$7x = 1092$ Combine like terms
$x = 156$ Divide by 7

13. **(A)** $.16\frac{3}{4} = 16\frac{3}{4}\%$
When changing decimals to percents, move the decimal to the right two places.

14. **(A)** $\$40 \times \frac{3}{8} = \$15.$
\$40 − \$15 = \$25

15. **(C)**

$$\begin{array}{r} \$1296.53 \\ \underline{-264.87} \\ \$1031.66 \end{array}$$

16. **(B)**
$$\begin{array}{r} 12\frac{1}{2} = 12\frac{2}{4} \\ \underline{-6\frac{1}{4} = -6\frac{1}{4}} \\ 6\frac{1}{4} \end{array}$$
Note: $\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$

17. **(D)** Price per dozen can be found by multiplying the $1.29 by 4. (There are 4 groups of 3 in a dozen.)
$\$1.25 \times 4 = \$5.16$

18. **(B)** $\frac{1}{4} + \frac{7}{12} + \frac{3}{8} + \frac{1}{2} + \frac{5}{6}$

Note: The lowest common denominator is 24. Each fraction needs to be rewritten to an equivalent fraction, so the denominator will be 24.

$$= \frac{6 + 14 + 9 + 12 + 20}{24} = \frac{61}{24}$$

Divide:

$$= \begin{array}{r} 2 \\ 24\overline{)61} \\ \underline{48} \\ 13 \end{array} \text{ or } 2\tfrac{13}{24}$$

19. **(A)** 25 feet × 36 feet = 900 square feet
Now change 900 square feet to square yards.
Note: 9 square feet = 1 square yard
$$900 \text{ square feet} \times \frac{1 \text{ square yard}}{9 \text{ square feet}}$$
= 100 square yards

20. **(C)**
$$\begin{array}{r} 80000. \\ .0009\overline{)72.0000} \end{array} \text{ or } 80{,}000$$

21. **(C)** One safety pin cost:
$\$4.15 \div 100 = \$.0415$
So 345 costs:
$345 \times 0.0415 = \$14.32$

22. **(A)** A number, x, that decreased by $\frac{1}{5}$ of itself equals 132, can be expressed as:

$$x - \frac{1x}{5} = 132$$

$5x - x = 660$ multiply each term by 5
$4x = 660$ combine like terms
$x = 165$ divide by 4

23. **(D)** $285 = 0.05y$ y is the unknown value
$5700 = y$ divide by 0.05

24. **(D)** \$65 − \$50 = \$15 is the increase, but to find the percentage of increase, we divide the increase by the original amount:
\$15 ÷ \$50 = 0.30 or 30%

25. **(B)** Let x represent the numerator of the fraction, then the denominator will be $x + 20$. Since the fraction is equivalent to $\frac{3}{5}$, we get

$$\frac{x}{x + 20} = \frac{3}{5}$$
$5x = 3(x + 20)$
$5x = 3x + 60$
$2x = 60$
$x = 30$

26. **(D)** $2 < x \leq 7$ means that x is greater than 2 and it is less than or equal to 7.

27. **(A)** $\frac{x}{5} - 4 = 11$

$\frac{x}{5} - 4 + 4 = 11 + 4$

$\frac{x}{5} = 15$

$5 \cdot \frac{x}{5} = 5 \cdot 15$

$x = 75$

28. **(D)** Note that one gallon of punch contains 128 ounces (one-half gallon contains 64 ounces). Hence $2\frac{1}{2}$ gallons equals 320 ounces. A direct proportion can be used to solve the problem.

Let x = the number of ounces of grape juice needed.

$$\frac{16 \text{ ounces grape}}{64 \text{ ounces punch}} = \frac{x}{320 \text{ ounces punch}}$$
$\frac{1}{4} = \frac{x}{320}$
$4x = 320$
$x = 80$ ounces grape juice

Since the answer is to be given in quarts, change 80 ounces to quarts by dividing 80 by 32. (There are 32 ounces in a quart.)
$80 \div 32 = 2.5$, thus 2.5 quarts of grape juice are needed to make $2\frac{1}{2}$ gallons of punch.

29. **(A)** There are 16 hours from 7:00 A.M. until 11:00 P.M. Hence Mrs. Bowler was up 16 hours.

Let x = the time Mrs. Bowler had left for other activities, then

$$\tfrac{1}{2}(16) + \tfrac{1}{8}(16) + \tfrac{1}{4}(16) + x = 16$$
$$8 + 2 + 4 + x = 16$$
$$14 + x = 16$$
$$x = 2$$

30. **(D)** 24 percent of the 50 students dropped the class.
24 percent of 50 = .24 × 50 = 12.

Since 12 students dropped, 50 − 12 or 38 students remained in the class.

31. **(C)** Divide $4\frac{1}{2}$ by $\frac{3}{4}$. (First change $4\frac{1}{2}$ to $\frac{9}{2}$)

$$4\tfrac{1}{2} \div \tfrac{3}{4} = \tfrac{9}{2} \times \tfrac{4}{3} = \tfrac{36}{6} = 6$$

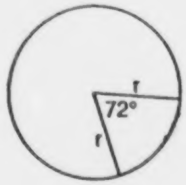
32. **(A)**
$$\begin{aligned} &3.6-1.2(.8-.3) + 8 \div .4 \\ &= 3.6 - 1.2(.5) + 8 \div .4 \\ &= 3.6 - .6 + 8 \div .4 \\ &= 3.6 - .6 + 20 \\ &= 3 + 20 \\ &= 23 \end{aligned}$$

Note that operations must be performed in the correct order. (Parentheses first, then multiplication and division before addition and subtraction.)

33. **(C)** Change .2 percent to a decimal and multiply .2 percent by 400.
.002 × 400 = .800 or .8

34. **(B)** A complete circle has 360°. 72° is $\frac{1}{5}$ of a circle.

$$\frac{72}{360} = \frac{1}{5}$$



Change $\frac{1}{5}$ to a percent.

$\frac{1}{5}$ = 20 percent. Thus, 72° is 20 percent of a circle.

35. **(B)** Use the Pythagorean theorem
$$c^2 = a^2 + b^2$$
$$c^2 = 3^2 + 4^2$$
$$c^2 = 9 + 16$$
$$c^2 = 25$$
$$c = \sqrt{25}$$
$$c = 5$$

36. **(B)** The formula for the area of a rectangle is $A = LW$. We know the area of the rectangle is 63 and the length is 9 feet. Thus,

$$63 \text{ square feet}^2 = 9W \text{ feet}$$
$$\frac{63 \text{ square feet}}{9 \text{ feet}} = \frac{9W \text{ feet}}{9 \text{ feet}}$$
$$7 \text{ ft} = \text{W}$$

37. **(D)** The corresponding sides of similar triangles are proportional. Therefore,
$$\frac{3}{7} = \frac{x}{9}$$
$$7x = 27$$
$$x = 3\tfrac{6}{7}$$

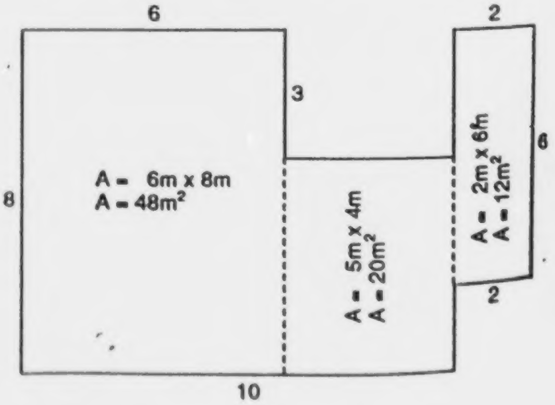
38. **(A)** Parallel lines have equal slopes, they do not intersect.

39. **(A)** The area of a square is found by squaring a side of the square.

If $A = 144\ m^2$
$144\ m^2 = s^2$ where s is a side of the square
$\sqrt{144\ m^2} = s$
$12\ m = s$

40. **(C)** Divide the figure into nonoverlapping rectangles. Find the area of each rectangle. Add the areas of the rectangles to get the total area of the figure.

$$A = 48m^2 + 20m^2 + 12m^2 = 80m^2$$



41. **(C)** The entire circle contains 360°. The central angle of 60° represents $\frac{60}{360} = \frac{1}{6}$. Change $\frac{1}{6}$ to a percent by dividing the denominator into the numerator. Thus $\frac{1}{6} = 16\frac{2}{3}\%$. We get 17 when we express $16\frac{2}{3}$ to the nearest whole percent.

42. **(D)** The weekly budget is represented by the entire circle. $\frac{1}{12}$ of the circle represents $\frac{1}{12} \times 360 = 30°$, which is the measure of the central angle for the amount spent on entertainment. $\frac{1}{8}$ of the circle represents $\frac{1}{8} \times 360 = 45°$, which is the measure of the central angle for the amount spent on gasoline. A central angle which represents the total spent on entertainment and gasoline is $30° + 45° = 75°$. (Alternately, $\frac{1}{8} + \frac{1}{12} = \frac{5}{24}$ and $\frac{5}{24} \times 360° = 75°$.)

PART II

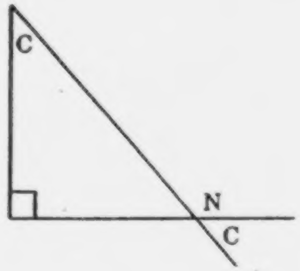
1. **(B)** Both n and a are negative because they are both less than 0. Hence $(n - a)$ must be greater than $(n + a)$ because a negative minus a negative is greater than a negative plus a negative.

   $-a > +a$ ($-a$ = positive, $+a$ = negative)

   $n - a > n + a$ (adding n to both sides)

2. **(A)** The average of Column A is 26, while the average of Column B is 25.

3. **(C)**



$\angle N = \angle C = 90°$ an exterior angle is equal to the sum of the interior remote angles

$\angle N - \angle C = 90°$ when equals are subtracted from equals, the differences are equal

4. **(D)** It is impossible to determine because y could be any number from 0 to 5 and n any number from 0 to 7.

5. **(A)** $5n - 5a = 25$

   $n - a = 5$ equals divided by equals are equals

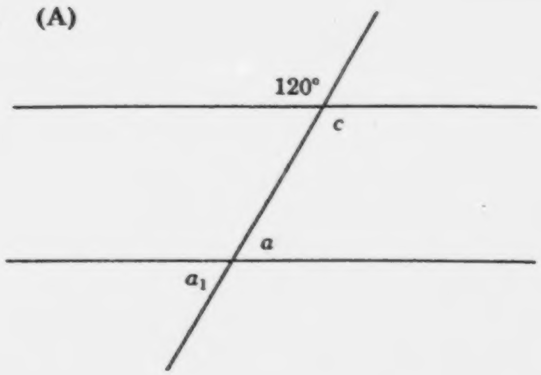
   $n = a + 5$ equals plus equals are equal

   n is five greater than a.

6. **(D)** An isosceles triangle has two equal angles, but from the information given it is impossible to determine which two angles are actually equal.

7. **(D)** There is insufficient information to determine whether m or c is the greater. By substituting numbers for m and c, we see that either quantity could be greater—for example (1) $m = 2, c = 1$; (2) $m = \frac{1}{8}, c = \frac{1}{4}$.

8. **(A)**



$\angle c = 120°$ and $\angle a = \angle a_1$ all vertical angles are equal

$\angle c + \angle a_1 = 180°$ the two interior angles on the same side of a tranversal are supplementary

$\angle a_1 = 60°$

$\angle a = 60° < \angle c = 120°$

9. **(A)** The shortest distance between two points is a straight line. Therefore the chord, a straight line, must be shorter than the arc.

10. **(B)** $5 + 16(3 - 2) = 5 + 16(1)$

    $= 5 + 16$

    $= 21$

    $21 + 5 - 3(4 - 3)(0) = 21 + 5 - 0$

    $= 26$

11. **(D)** Since the value of x cannot be determined, the value of Columns A and B remain unknown.

12. **(A)** It can be readily seen that the figure consists of two 3, 4, 5 right triangles. Therefore, $h = 5$ and $y = 3$.

BEST COPY AVAILABLE

Exercises in English

Grammar, Diction, Punctuation and Style

Use this study guide in preparation for:

- Business School Entrance Exam (Basic Skills & Placement)
- College Placement Exam (English)

These exercises (and answers with explantions) will test your students' skills in grammar, diction, punctuation and style. Be certain to instruct students to check their answers after each exercise since skills reviewed are repeated and built upon in successive exercises.

The exercises included here assume a language skill level of 9.5. If your student does not possess this skill level, provide her or him a text for review.

Selective Bibliography

Language Exercises
Austin: Steck-Vaughn Company

Basic Language Skills
New Jersey: Cambridge Adult Education

Exercising Your English Books (1-3)
Chicago: Contemporary Books

PART 1

This part of the English preparation will cover grammar and usage. Included here is a series of exercises designed to give you exposure to the many possible errors found in sentences. Also included is an answer sheet with the correct answer and a brief explanation of why that answer is correct. It is essential that you have a good background in the basic English skills of grammar and usage. If you need to brush-up in this area first, ask your teacher to recommend materials to use for this purpose. Once again, this part of the English preparation is a series of exercises given for the purpose of applying basic English skills. It is essential that these basic English skills be reviewed and retained.

EXERCISE 1

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Bob and $\underset{1}{\underline{\text{she}}}$ $\underset{2}{\underline{\text{enjoy}}}$ the movie very much, but $\underset{3}{\underline{\text{they}}}$ thought it was $\underset{4}{\underline{\text{too}}}$ long. $\underset{5}{\underline{\text{No error}}}$

2. $\underset{1}{\underline{\text{Does}}}$ the foremen at your plant $\underset{2}{\underline{\text{act}}}$ $\underset{3}{\underline{\text{as if}}}$ they $\underset{4}{\underline{\text{owned}}}$ the place? $\underset{5}{\underline{\text{No error}}}$

3. Neither Roger $\underset{1}{\underline{\text{nor}}}$ Ben $\underset{2}{\underline{\text{ever}}}$ thought $\underset{3}{\underline{\text{that}}}$ $\underset{4}{\underline{\text{they}}}$ could bowl a perfect game. $\underset{5}{\underline{\text{No error}}}$

4. If I $\underset{1}{\underline{\text{were}}}$ in $\underset{2}{\underline{\text{Clara's}}}$ shoes, $\underset{3}{\underline{\text{I'd}}}$ $\underset{4}{\underline{\text{leave}}}$ Fred in a minute. $\underset{5}{\underline{\text{No error}}}$

5. Chip $\underset{1}{\underline{\text{hurt}}}$ $\underset{2}{\underline{\text{himself}}}$ $\underset{3}{\underline{\text{bad}}}$ when he $\underset{4}{\underline{\text{drove}}}$ his car into a telephone pole. $\underset{5}{\underline{\text{No error}}}$

6. Jack $\underset{1}{\underline{\text{was}}}$ getting tired of waiting for his wife and $\underset{2}{\underline{\text{her}}}$ mother when Barbara and $\underset{3}{\underline{\text{her}}}$ finally $\underset{4}{\underline{\text{appeared}}}$. $\underset{5}{\underline{\text{No error}}}$

7. If $\underset{1}{\underline{\text{your}}}$ not sure about something, you can $\underset{2}{\underline{\text{always}}}$ $\underset{3}{\underline{\text{ask}}}$ $\underset{4}{\underline{\text{me}}}$ about it. $\underset{5}{\underline{\text{No error}}}$

8. Neither Terri nor Sally $\underset{1}{\underline{\text{is}}}$ bringing $\underset{2}{\underline{\text{their}}}$ car, but I $\underset{3}{\underline{\text{am}}}$ going to bring $\underset{4}{\underline{\text{mine}}}$. $\underset{5}{\underline{\text{No error}}}$

9. The orchestra play a concert whenever it needs money for new music. No error
1 2 3 4 5

10. There was never a man more impossible than my father, whom I loved in spite of his
1 2 3 4
temper. No error
5

11. Yvonne's little boy seems more content and more playfuller than most children.
1 2 3 4
No error
5

12. Both Nancy and Carol asked their husbands to behave himself at the new neighbor's
1 2 3 4
party. No error
5

13. Jane and I like Beths new dress, but Beth thinks it may be too big. No error
1 2 3 4 5

14. Neither Phil nor Bruce had ate his dinner before I got home. No error
1 2 3 4 5

15. The man which was here refused to leave his name and address. No error
1 2 3 4 5

EXERCISE 2

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. If Anne and I drive any further today, we are going to have to buy more gas.
1 2 3 4
No error
5

2. If Ted thinks that there car is worth three hundred dollars, he is wrong. No error
1 2 3 4 5

3. It was Tom and him who told me Fritz's hat looked strange. No error
1 2 3 4 5

4. The mayor, along with the governor and the senator, acted as if they were enjoying
1 2 3
the President's speech. No error
4 5

5. Not only Dr. Adams but also his nurse think Myrna should lose about twenty pounds. No error
1 2 3 4 5

6. Both John and Theodore took his time when leaving the house this morning. No error
1 2 3 4 5

7. Hector is learning English as quick as he can. No error
1 2 3 4 5

8. The lady who is standing by the door has a beautiful smile. No error
1 2 3 4 5

9. My son Donald said he would try to behave like he should. No error
1 2 3 4 5

10. Even if Leon wins his case in court, he still has to pay the lawyers fee. No error
1 2 3 4 5

11. Who were some of the heroes to come out of World War II? No error
1 2 3 4 5

12. The thief had stole money from every house in the neighborhood before he was caught. No error
1 2 3 4 5

13. My wife and I has finally saved enough money to buy a house. No error
1 2 3 4 5

14. Everyone who want to go to the park should sign up with Madeline Smith, our program supervisor. No error
1 2 3 4 5

15. I have never said nothing to Donna about Mike and her. No error
1 2 3 4 5

EXERCISE 3

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. I could of helped Fred move, but I wasn't really sure he wanted any help. No error
1 2 3 4 5

2. I do a lot more better on essay tests than on multiple choice tests, don't you?
1 2 3 4
No error
5

3. Just between you and I, don't you think Myrtle's new friend is stranger than
1 2 3 4
Myrtle? No error
5

4. Freda wanted to do something about the mouses in her apartment, but she didn't
1 2 3
want to buy a mousetrap. No error
4 5

5. Todd and she was looking for Bart and me, but they couldn't find us. No error
1 2 3 4 5

6. There isn't anything I can do now except wait. No error
1 2 3 4 5

7. My wife likes to follow the local elections, but I think politics are very boring.
1 2 3 4
No error
5

8. It's all right with me if you lay down for a while. No error
1 2 3 4 5

9. There can be little doubt that getting mugged is an horrible experience. No error
1 2 3 4 5

10. You may give this clothing to whomever needs it. No error
1 2 3 4 5

11. We would have had such a good time last night if only Cathy had brung her stereo
1 2 3
with her. No error
4 5

12. Working two jobs is something that many people have to do these days. No error
1 2 3 4 5

13. Each of the men on my father's bowling team bought themselves a new ball.
1 2 3 4
No error
5

14. I did good on the last test, but I think I can do even better next time. No error
1 2 3 4 5

15. This jacket is either hers or yours, but there doesn't seem to be any way to tell
1 2 3
whose it is for sure. No error
4 5

EXERCISE 4

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. I don't know if it was my brother or I who accidently broke the mirror. No error
1 2 3 4 5

2. Neither my sister nor my brother-in-law has said anything about us coming to their
1 2 3 4
house for Thanksgiving. No error
5

3. Barney is the kind or a guy who puts ketchup on everything he eats. No error
1 2 3 4 5

4. I have finally came to the conclusion that Sam is quite a person. No error
1 2 3 4 5

5. Both Betty and her sister are coming with Tom and I whether Esther comes along or
1 2 3 4
not. No error
5

6. If anyone wants a recipe, they should be sure to ask for it. No error
1 2 3 4 5

7. Greg, in addition to his brothers, will work for his uncle in a factory near
1 2 3 4
Knoxville. No error
5

8. There are around forty people coming to Kate's wedding reception. No error
1 2 3 4 5

9. Fifty miles is the most farthest I have ever ridden on my bicycle. No error
1 2 3 4 5

10. Whom among the four candidates do you think is most qualified? No error
1 2 3 4 5

11. The recipe calls for one onion, three peppers, and two cans of tomatoes. No error
1 2 3 4 5

12. The home team played their best game of the season last night even though the
1 2
other team won. No error
3 4 5

13. If they're not leaving with George and her, perhaps they would like to go with us.
1 2 3 4
No error
5

14. Chris's eyeglasses are on the table, but I can't find Joe's wallet. No error
1 2 3 4 5

15. Does anyone knows what Mr. Miller was wearing when he was last seen? No error
1 2 3 4 5

EXERCISE 5

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Neither Phil nor Sharon thinks that the workers have done a good job. No error
1 2 3 4 5

2. According to the sign outside the bakery, the rolls cost twenty cent each. No error
1 2 3 4 5

3. Cy Roberts was chose to be the next union president because all the men trust him.
1 2 3 4
No error
5

4. Henrietta and she was really scared when those two tornadoes struck last week.
1 2 3 4
No error
5

5. There's several things Victor can do if he isn't too busy to help out. No error
1 2 3 4 5

6. Claudia Harmon, one of my very best friends, write a letter to me every week.
1 2 3 4
No error
5

7. Walter has allowed Phyllis and her to use his car this weekend. No error
1 2 3 4 5

8. Jack and Mary argue about the garbage often because someone always forgets when
1 2
it's their turn to throw out the trash. No error
3 4 5

9. There isn't hardly anyone on our block who doesn't have his own television.
1 2 3 4
No error
5

10. Us parents have a hard time convincing our children of the value of education these
1 2 3 4
days. No error
5

11. Olive asked me if wool came from goats as well as sheeps, but I didn't know the
1 2 3 4
answer. No error
5

12. Whatever Rita does she does well, though her methods are sometimes a little
1 2 3 4
strange. No error
5

13. I surely hope you try and do something about your illness before it's too late.
1 2 3 4
No error
5

14. When Jim and Dora get divorced, I think it will affect Dora much more than he.
1 2 3 4
No error
5

15. Charlene said she be leaving for New Orleans just as soon as she gets her back pay
1 2 3 4
in the mail. No error
5

EXERCISE 6

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Can you hear me, or is you too bored to listen? No error
1 2 3 4 5

2. Linda's$_{1}$ daughter Tiffany had learned$_{2}$ to walk before she$_{3}$ learned$_{4}$ to talk. No error$_{5}$

3. Neither your sister nor$_{1}$ I enjoys$_{2}$ telling you this, Fred, but it's$_{3}$ got to be done$_{4}$. No error$_{5}$

4. The visitor from Japan asked$_{1}$ Gertrude to speak a little slower$_{2}$ so that he could$_{3}$ understand her better$_{4}$. No error$_{5}$

5. The army prepared to fire their$_{1}$ weapons as the enemy began$_{2}$ its$_{3}$ attack on all sides$_{4}$. No error$_{5}$

6. Whenever Sally, Millie, and her$_{1}$ get$_{2}$ together, they talk$_{3}$ for hours about old times$_{4}$. No error$_{5}$

7. I notice$_{1}$ that all of the merchandise$_{2}$ in this$_{3}$ store was$_{4}$ made in Japan. No error$_{5}$

8. Harold and she$_{1}$ sat$_{2}$ besides$_{3}$ Jack and me$_{4}$ at the football game last Saturday. No error$_{5}$

9. Nancy and I$_{1}$ had been$_{2}$ home for some time before Sherry had called$_{3}$ to let us know she would$_{4}$ be late. No error$_{5}$

10. Carol travels$_{1}$ more$_{2}$ then$_{3}$ most people, but she hasn't$_{4}$ been to Tahiti yet. No error$_{5}$

11. Coming so soon after her husband's$_{1}$ death, her mother's$_{2}$ heart attack was$_{3}$ a real$_{4}$ shock to Mrs. Bigelow. No error$_{5}$

12. Any person who leaves$_{1}$ their$_{2}$ seat during the show will have to$_{3}$ stand$_{4}$ for the rest of the performance. No error$_{5}$

13. Both Jack and Eddie said$_{1}$ he$_{2}$ wanted to try to$_{3}$ take a trip to$_{4}$ Canada next year. No error$_{5}$

14. Our dollars may buy little now, but they will buy even less things in the future.
1 2 3 4
No error
5

15. Mrs. Garfield has given the check to Joyce and myself as our wedding present.
1 2 3 4
No error
5

EXERCISE 7

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Any of the people who want his tires repaired will have to wait until next week.
1 2 3 4
No error
5

2. That dogs collar; must be too tight because the dog is choking. No error
1 2 3 4 5

3. Something tells me you're the one who's supposed to help me. No error
1 2 3 4 5

4. Betsy says she swim five miles every day, but I can hardly believe it. No error
1 2 3 4 5

5. Elizabeth don't think she feels like going to the show tonight. No error
1 2 3 4 5

6. Marty, as well as Georgia and Melba, took their driving test yesterday and probably
1 2
did very well. No error
3 4 5

7. The more effort I put into my work, the more worse I seem to do. No error
1 2 3 4 5

8. This motorcycle may be Stephen's, but I think it's her's. No error
1 2 3 4 5

9. Ralph's neighbor, Mrs. Crabbets, told him that his wife and he made too much noise.
1 2 3 4
No error
5

10. We can divide what is left of the cake between the four of us. No error
1 2 3 4 5

11. Kathleen look in the box, but she didn't see anything in it except another box.
1 2 3 4
No error
5

12. I told the police that the doors was open when I got there. No error
1 2 3 4 5

13. Not only the President but also the Secretary of State gave their views on foreign
1 2 3
policy matters during the meeting. No error
4 5

14. Sam should have known better than to follow Mike's advice on job hunting. No error
1 2 3 4 5

15. I am supposed to wait here for at least a hour and then call Tania before I leave.
1 2 3 4
No error
5

EXERCISE 8

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Becky Sharp, whom you know quite well, is just about the most nice person I know.
1 2 3 4
No error
5

2. Mr. Bixby, the travel agent, told Jim and she that Hawaii was just the spot for
1 2 3
them. No error
4 5

3. The mother couldn't find her child's coat because it was lost in a pile of other
1 2 3
childs' coats. No error
4 5

4. No sooner had she started explaining than I begun to understand. No error
1 2 3 4 5

5. The $\underset{1}{\underline{\text{Johnsons}}}$ and $\underset{2}{\underline{\text{I}}}$ $\underset{3}{\underline{\text{am}}}$ going on a little shopping trip $\underset{4}{\underline{\text{this}}}$ Saturday. $\underset{5}{\underline{\text{No error}}}$

6. Caroline $\underset{1}{\underline{\text{didn't}}}$ know $\underset{2}{\underline{\text{who}}}$ it was, but someone was playing $\underset{3}{\underline{\text{their}}}$ radio too $\underset{4}{\underline{\text{loudly}}}$. $\underset{5}{\underline{\text{No error}}}$

7. The noise $\underset{1}{\underline{\text{used}}}$ to be $\underset{2}{\underline{\text{bad}}}$, but now $\underset{3}{\underline{\text{it's}}}$ $\underset{4}{\underline{\text{worse}}}$. $\underset{5}{\underline{\text{No error}}}$

8. As soon as that woman $\underset{1}{\underline{\text{gets}}}$ $\underset{2}{\underline{\text{off of}}}$ the telephone, I $\underset{3}{\underline{\text{will call}}}$ $\underset{4}{\underline{\text{Jerry's}}}$ brother. $\underset{5}{\underline{\text{No error}}}$

9. I $\underset{1}{\underline{\text{am}}}$ feeling $\underset{2}{\underline{\text{good}}}$ today, but I $\underset{3}{\underline{\text{expect}}}$ the pain to $\underset{4}{\underline{\text{start}}}$ again. $\underset{5}{\underline{\text{No error}}}$

10. Between Elsie and $\underset{1}{\underline{\text{she}}}$, $\underset{2}{\underline{\text{there}}}$ $\underset{3}{\underline{\text{is}}}$ very little difference as far as beauty $\underset{4}{\underline{\text{is}}}$ concerned. $\underset{5}{\underline{\text{No error}}}$

11. Betty was $\underset{1}{\underline{\text{drove}}}$ to the airport by $\underset{2}{\underline{\text{her}}}$ husband, $\underset{3}{\underline{\text{who}}}$ $\underset{4}{\underline{\text{had taken}}}$ a day off from work. $\underset{5}{\underline{\text{No error}}}$

12. Although none of the cakes that $\underset{1}{\underline{\text{was}}}$ in the refrigerator $\underset{2}{\underline{\text{were}}}$ eaten, most of the apple pie that $\underset{3}{\underline{\text{was}}}$ on the table $\underset{4}{\underline{\text{was}}}$ gone. $\underset{5}{\underline{\text{No error}}}$

13. Athletics $\underset{1}{\underline{\text{is}}}$ $\underset{2}{\underline{\text{quite}}}$ important, but $\underset{3}{\underline{\text{they}}}$ must not be all a child $\underset{4}{\underline{\text{does}}}$ at school. $\underset{5}{\underline{\text{No error}}}$

14. The boss said he didn't see $\underset{1}{\underline{\text{anything}}}$ in $\underset{2}{\underline{\text{this here}}}$ report that would make him $\underset{3}{\underline{\text{suspect}}}$ $\underset{4}{\underline{\text{my}}}$ loyalty to the company. $\underset{5}{\underline{\text{No error}}}$

15. If $\underset{1}{\underline{\text{its}}}$ $\underset{2}{\underline{\text{all right}}}$ with Millie, $\underset{3}{\underline{\text{then}}}$ I'm sure I $\underset{4}{\underline{\text{have}}}$ no objections. $\underset{5}{\underline{\text{No error}}}$

EXERCISE 9

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Elton sharpens all his $\underset{1}{\underline{\text{knifes}}}$ twice a year, $\underset{2}{\underline{\text{but}}}$ he $\underset{3}{\underline{\text{doesn't}}}$ know how to $\underset{4}{\underline{\text{sharpen}}}$ his scissors. $\underset{5}{\underline{\text{No error}}}$

2. Mary and $\underset{1}{\underline{\text{she}}}$ expected to be $\underset{2}{\underline{\text{frighten}}}$ by the movie, but $\underset{3}{\underline{\text{they}}}$ $\underset{4}{\underline{\text{weren't}}}$ prepared for total terror. $\underset{5}{\underline{\text{No error}}}$

3. Each of the women $\underset{1}{\underline{\text{who}}}$ $\underset{2}{\underline{\text{has}}}$ applied for the job $\underset{3}{\underline{\text{is}}}$ highly $\underset{4}{\underline{\text{qualified}}}$. $\underset{5}{\underline{\text{No error}}}$

4. There $\underset{1}{\underline{\text{were}}}$ so $\underset{2}{\underline{\text{many}}}$ people at the last Thanksgiving dinner that we $\underset{3}{\underline{\text{had}}}$ to cook three $\underset{4}{\underline{\text{turkies}}}$. $\underset{5}{\underline{\text{No error}}}$

5. Sally and I don't believe half the stuff Mike $\underset{1}{\underline{\text{says}}}$, but he $\underset{2}{\underline{\text{takes}}}$ $\underset{3}{\underline{\text{hisself}}}$ very $\underset{4}{\underline{\text{seriously}}}$. $\underset{5}{\underline{\text{No error}}}$

6. $\underset{1}{\underline{\text{Flora's}}}$ hat is on the dresser, but I $\underset{2}{\underline{\text{don't}}}$ know $\underset{3}{\underline{\text{who's}}}$ $\underset{4}{\underline{\text{hat}}}$ this is. $\underset{5}{\underline{\text{No error}}}$

7. George $\underset{1}{\underline{\text{has}}}$ $\underset{2}{\underline{\text{already}}}$ left, so we should $\underset{3}{\underline{\text{try to}}}$ leave in a few $\underset{4}{\underline{\text{minutes}}}$. $\underset{5}{\underline{\text{No error}}}$

8. I $\underset{1}{\underline{\text{would of}}}$ said something $\underset{2}{\underline{\text{sooner}}}$, but I $\underset{3}{\underline{\text{was}}}$ afraid of $\underset{4}{\underline{\text{your}}}$ reaction. $\underset{5}{\underline{\text{No error}}}$

9. Mildred $\underset{1}{\underline{\text{said}}}$ she $\underset{2}{\underline{\text{be}}}$ thinking about me when I $\underset{3}{\underline{\text{go}}}$ to the hospital tomorrow for $\underset{4}{\underline{\text{tests}}}$. $\underset{5}{\underline{\text{No error}}}$

10. Tom let Ron and $\underset{1}{\underline{\text{her}}}$ use $\underset{2}{\underline{\text{his'}}}$ TV set for a month, but now $\underset{3}{\underline{\text{he}}}$ wants $\underset{4}{\underline{\text{it}}}$ back. $\underset{5}{\underline{\text{No error}}}$

11. My friends and $\underset{1}{\underline{\text{I}}}$ $\underset{2}{\underline{\text{try}}}$ to stay away from Mr. Jablonsky, $\underset{3}{\underline{\text{which}}}$ we believe $\underset{4}{\underline{\text{is}}}$ not a very nice man. $\underset{5}{\underline{\text{No error}}}$

12. Instead of getting better, our problems seem to go from bad to worser. No error
1 2 3 4 5

13. Incidentally, the doctor told Ruth and him that their son is in good health. No error
1 2 3 4 5

14. I can understand them wanting a baby boy after having had three girls already.
1 2 3 4
No error
5

15. Every morning, I walk past the bank and stops in the coffee shop, where I order a
1 2 3
coffee and two doughnuts to go. No error
4 5

EXERCISE 10

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. I accept the principle of what your saying, and I agree with you besides. No error
1 2 3 4 5

2. Mr. Lawrence Kobel, who I am sure you all know quite well, is donating a large sum
1 2 3
to our church. No error
4 5

3. It's hard to believe, but a gallon of gas used to cost only thirty cent. No error
1 2 3 4 5

4. When he didn't get his refund, Stanley realized that he filled out his income tax
1 2
forms incorrectly and would probably be audited. No error
3 4 5

5. Someone has been calling me on the telephone, but he won't give me his name.
1 2 3 4
No error
5

6. Neither Teresa nor Juan are ready for marriage, but that fact doesn't seem to make
1 2 3
any difference to either of them. No error
4 5

7. The game $\underset{1}{\underline{\text{will be}}}$ a long one, so the $\underset{2}{\underline{\text{most strongest}}}$ player $\underset{3}{\underline{\text{will}}}$ probably $\underset{4}{\underline{\text{be}}}$ the winner. $\underset{5}{\underline{\text{no error}}}$

8. Unless the company gives $\underset{1}{\underline{\text{them}}}$ workers a raise, $\underset{2}{\underline{\text{there}}}$ $\underset{3}{\underline{\text{will be}}}$ a strike at the $\underset{4}{\underline{\text{plant}}}$. $\underset{5}{\underline{\text{No error}}}$

9. In the $\underset{1}{\underline{\text{woods}}}$ behind our house, all the $\underset{2}{\underline{\text{tree's}}}$ $\underset{3}{\underline{\text{leaves}}}$ turn red and gold in the fall, except for the pine $\underset{4}{\underline{\text{trees}}}$. $\underset{5}{\underline{\text{No error}}}$

10. Will everyone $\underset{1}{\underline{\text{who}}}$ $\underset{2}{\underline{\text{wants}}}$ to end $\underset{3}{\underline{\text{this}}}$ meeting please raise $\underset{4}{\underline{\text{their}}}$ hand? $\underset{5}{\underline{\text{No error}}}$

11. Something in the tone of $\underset{1}{\underline{\text{Ruth's}}}$ voice $\underset{2}{\underline{\text{tells}}}$ me $\underset{3}{\underline{\text{she's}}}$ trying to $\underset{4}{\underline{\text{make}}}$ a fool of me. $\underset{5}{\underline{\text{No error}}}$

12. Not only the building but $\underset{1}{\underline{\text{also}}}$ the windows $\underset{2}{\underline{\text{were}}}$ $\underset{3}{\underline{\text{being}}}$ repaired by the construction $\underset{4}{\underline{\text{workers'}}}$. $\underset{5}{\underline{\text{No error}}}$

13. The crew $\underset{1}{\underline{\text{voted}}}$ unanimously to $\underset{2}{\underline{\text{support}}}$ $\underset{3}{\underline{\text{its}}}$ leader in $\underset{4}{\underline{\text{his}}}$ time of trouble. $\underset{5}{\underline{\text{No error}}}$

14. I must $\underset{1}{\underline{\text{look}}}$ into $\underset{2}{\underline{\text{this}}}$ problem $\underset{3}{\underline{\text{farther}}}$ if I $\underset{4}{\underline{\text{hope}}}$ to find a solution. $\underset{5}{\underline{\text{No error}}}$

15. Why $\underset{1}{\underline{\text{do}}}$ you $\underset{2}{\underline{\text{think}}}$ I should $\underset{3}{\underline{\text{accept}}}$ $\underset{4}{\underline{\text{they're}}}$ offer? $\underset{5}{\underline{\text{No error}}}$

EXERCISE 11

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Philip $\underset{1}{\underline{\text{has given}}}$ Martha and $\underset{2}{\underline{\text{she}}}$ free tickets to $\underset{3}{\underline{\text{hear}}}$ $\underset{4}{\underline{\text{their}}}$ favorite rock star in concert. $\underset{5}{\underline{\text{No error}}}$

2. My $\underset{1}{\underline{\text{wifes'}}}$ mother $\underset{2}{\underline{\text{came}}}$ to visit us and $\underset{3}{\underline{\text{didn't}}}$ leave for three $\underset{4}{\underline{\text{months}}}$. $\underset{5}{\underline{\text{No error}}}$

3. Robert $\underset{1}{\underline{\text{had been}}}$ tuning $\underset{2}{\underline{\text{pianoes}}}$ for a living before he $\underset{3}{\underline{\text{got}}}$ with his $\underset{4}{\underline{\text{brother's}}}$ company. $\underset{5}{\underline{\text{No error}}}$

4. One of the cars that $\underset{1}{\underline{\text{is}}}$ in the parking lot $\underset{2}{\underline{\text{has}}}$ $\underset{3}{\underline{\text{two}}}$ flat tires and a $\underset{4}{\underline{\text{broken}}}$ window. $\underset{5}{\underline{\text{No error}}}$

5. My parents, $\underset{1}{\underline{\text{as well as}}}$ my sister, $\underset{2}{\underline{\text{wants}}}$ to eat at $\underset{3}{\underline{\text{Joe's}}}$ Place, but I $\underset{4}{\underline{\text{prefer}}}$ the Blue Mill Inn. $\underset{5}{\underline{\text{No error}}}$

6. I don't know how $\underset{1}{\underline{\text{bad}}}$ you $\underset{2}{\underline{\text{did}}}$ on the test, but I'm sure I $\underset{3}{\underline{\text{did}}}$ $\underset{4}{\underline{\text{worse}}}$. $\underset{5}{\underline{\text{No error}}}$

7. I $\underset{1}{\underline{\text{wasn't}}}$ kind to either Becky $\underset{2}{\underline{\text{or}}}$ Tony, but I hurt Becky more $\underset{3}{\underline{\text{than}}}$ $\underset{4}{\underline{\text{he}}}$. $\underset{5}{\underline{\text{No error}}}$

8. Chris $\underset{1}{\underline{\text{move}}}$ $\underset{2}{\underline{\text{more slowly}}}$ than anybody I $\underset{3}{\underline{\text{know}}}$, $\underset{4}{\underline{\text{except}}}$ for me. $\underset{5}{\underline{\text{No error}}}$

9. That $\underset{1}{\underline{\text{bunch}}}$ of grapes $\underset{2}{\underline{\text{have}}}$ to $\underset{3}{\underline{\text{be}}}$ washed before anyone $\underset{4}{\underline{\text{eats}}}$ it. $\underset{5}{\underline{\text{No error}}}$

10. Both the king and the queen $\underset{1}{\underline{\text{gave}}}$ $\underset{2}{\underline{\text{her}}}$ royal approval for the marriage of $\underset{3}{\underline{\text{their}}}$ son $\underset{4}{\underline{\text{to}}}$ a commoner. $\underset{5}{\underline{\text{No error}}}$

11. $\underset{1}{\underline{\text{There}}}$ $\underset{2}{\underline{\text{is}}}$ no reason to $\underset{3}{\underline{\text{try to}}}$ convince you, since $\underset{4}{\underline{\text{your}}}$ mind is already made up. $\underset{5}{\underline{\text{No error}}}$

12. Everyone who $\underset{1}{\underline{\text{lives}}}$ in the building $\underset{2}{\underline{\text{is}}}$ angry about $\underset{3}{\underline{\text{Marks'}}}$ $\underset{4}{\underline{\text{being}}}$ evicted. $\underset{5}{\underline{\text{No error}}}$

13. The government $\underset{1}{\underline{\text{says}}}$ there are $\underset{2}{\underline{\text{less}}}$ people living in New York City $\underset{3}{\underline{\text{than}}}$ ten $\underset{4}{\underline{\text{years}}}$ ago. $\underset{5}{\underline{\text{No error}}}$

14. $\underset{1}{\underline{\text{There}}}$ must be some reason why Carrie, $\underset{2}{\underline{\text{who}}}$ $\underset{3}{\underline{\text{I've}}}$ always trusted, $\underset{4}{\underline{\text{is}}}$ lying to me. $\underset{5}{\underline{\text{No error}}}$

15. Does anybody know who's car is blocking the driveway? No error
1 2 3 4 5

EXERCISE 12

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; them circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. Hal usually does a good job, but this time he done better than I had expected. No
1 2 3 4
error
5

2. Now that you mention it, I knowed that Patsy was coming home from work early. No
1 2 3 4
error
5

3. One of the children who lives next door has the mumps. No error
1 2 3 4 5

4. Of my three closest friends, Marianne is by far the kinder. No error
1 2 3 4 5

5. You're welcome to drive the car if him driving bothers you. No error
1 2 3 4 5

6. Nancy's television is all right, but I think our's has a better picture. No error
1 2 3 4 5

7. Even if you don't feel well, you shouldn't take them pills without your doctor's
1 2 3 4
permission. No error
5

8. The soldier remained stationary while bullets whizzed by above his head. No error
1 2 3 4 5

9. Stella rung the doorbell several times, but nobody answered. No error
1 2 3 4 5

10. I thought I had understanded the officer's instructions, but I guess I hadn't. No error
1 2 3 4 5

11. I like tacos and burritos, but my most favoritest kind of Mexican food is chili.
1 2 3 4
No error
5

12. Melinda and $\underset{1}{\underline{\text{she}}}$ $\underset{2}{\underline{\text{plans}}}$ on going to the movies in $\underset{3}{\underline{\text{about}}}$ $\underset{4}{\underline{\text{an}}}$ hour. $\underset{5}{\underline{\text{No error}}}$

13. If anyone $\underset{1}{\underline{\text{has}}}$ left $\underset{2}{\underline{\text{their}}}$ car in the no parking zone outside, $\underset{3}{\underline{\text{he}}}$ should $\underset{4}{\underline{\text{move}}}$ it right away. $\underset{5}{\underline{\text{No error}}}$

14. Hector $\underset{1}{\underline{\text{is}}}$ $\underset{2}{\underline{\text{an}}}$ attractive man, but George is the $\underset{3}{\underline{\text{most handsome}}}$ man I $\underset{4}{\underline{\text{know}}}$. $\underset{5}{\underline{\text{No error}}}$

15. The vet $\underset{1}{\underline{\text{has checked}}}$ the $\underset{2}{\underline{\text{cats'}}}$ paw, and she told us that it $\underset{3}{\underline{\text{isn't}}}$ $\underset{4}{\underline{\text{broken}}}$. $\underset{5}{\underline{\text{No error}}}$

EXERCISE 13

DIRECTIONS: In each sentence, find what is wrong, if anything. If there is an error, decide which underlined part must be changed to make the sentence correct; then circle the number of the underlined part that must be changed. If there is no error, circle answer number 5. No sentence contains more than one error.

1. After Carlos had $\underset{1}{\underline{\text{hurt}}}$ $\underset{2}{\underline{\text{himself}}}$ in a motorcycle accident, he $\underset{3}{\underline{\text{swore}}}$ he'd $\underset{4}{\underline{\text{never}}}$ ride again. $\underset{5}{\underline{\text{No error}}}$

2. Of all my $\underset{1}{\underline{\text{children}}}$, Kathy $\underset{2}{\underline{\text{has}}}$ $\underset{3}{\underline{\text{gave}}}$ me the $\underset{4}{\underline{\text{most}}}$ problems. $\underset{5}{\underline{\text{No error}}}$

3. Edgar and $\underset{1}{\underline{\text{I}}}$ $\underset{2}{\underline{\text{want}}}$ to help, and $\underset{3}{\underline{\text{we}}}$ $\underset{4}{\underline{\text{be}}}$ ready to start at any time. $\underset{5}{\underline{\text{No error}}}$

4. $\underset{1}{\underline{\text{There's}}}$ $\underset{2}{\underline{\text{quite}}}$ a few things that need to be $\underset{3}{\underline{\text{done}}}$, starting with the $\underset{4}{\underline{\text{dishes}}}$. $\underset{5}{\underline{\text{No error}}}$

5. Roger MacKenzie of the Royal Canadian Mounted Police $\underset{1}{\underline{\text{have}}}$ been $\underset{2}{\underline{\text{invited}}}$ to $\underset{3}{\underline{\text{my}}}$ $\underset{4}{\underline{\text{sister's}}}$ wedding. $\underset{5}{\underline{\text{No error}}}$

6. The manager $\underset{1}{\underline{\text{was}}}$ upset about $\underset{2}{\underline{\text{Pat}}}$ $\underset{3}{\underline{\text{being}}}$ late for work, but he $\underset{4}{\underline{\text{didn't}}}$ tell her about it. $\underset{5}{\underline{\text{No error}}}$

7. Matt $\underset{1}{\underline{\text{drives}}}$ $\underset{2}{\underline{\text{slow}}}$ in the city, but he $\underset{3}{\underline{\text{drives}}}$ $\underset{4}{\underline{\text{like}}}$ a speed demon on the highway. $\underset{5}{\underline{\text{No error}}}$

8. Bertha $\underset{1}{\underline{\text{told}}}$ Judy and $\underset{2}{\underline{\text{me}}}$ that the only way to $\underset{3}{\underline{\text{lose}}}$ weight is to eat $\underset{4}{\underline{\text{less}}}$ fats. $\underset{5}{\underline{\text{No error}}}$

9. My wife Candi and $\underset{1}{\underline{\text{myself}}}$ $\underset{2}{\underline{\text{want}}}$ to thank $\underset{3}{\underline{\text{all of you}}}$ for the help you've $\underset{4}{\underline{\text{given}}}$ us. $\underset{5}{\underline{\text{No error}}}$

10. Orville $\underset{1}{\underline{\text{sharpened}}}$ $\underset{2}{\underline{\text{his}}}$ ice skates last night when he $\underset{3}{\underline{\text{discovered}}}$ the pond was $\underset{4}{\underline{\text{froze}}}$ solid. $\underset{5}{\underline{\text{No error}}}$

11. Maybelle and $\underset{1}{\underline{\text{I}}}$ $\underset{2}{\underline{\text{haven't}}}$ hardly had the time to sit down since $\underset{3}{\underline{\text{we}}}$ $\underset{4}{\underline{\text{retired}}}$. $\underset{5}{\underline{\text{No error}}}$

12. Carl Fisher, $\underset{1}{\underline{\text{whom}}}$ I've $\underset{2}{\underline{\text{known}}}$ for years, $\underset{3}{\underline{\text{has}}}$ $\underset{4}{\underline{\text{become}}}$ an assistant to the mayor. $\underset{5}{\underline{\text{No error}}}$

13. In order to help $\underset{1}{\underline{\text{she}}}$ and $\underset{2}{\underline{\text{her}}}$ children, we'll have to ask $\underset{3}{\underline{\text{them}}}$ what $\underset{4}{\underline{\text{they}}}$ need. $\underset{5}{\underline{\text{No error}}}$

14. Archie $\underset{1}{\underline{\text{believes}}}$ you can be the $\underset{2}{\underline{\text{happiest}}}$ person in the world $\underset{3}{\underline{\text{weather}}}$ $\underset{4}{\underline{\text{you're}}}$ rich or poor. $\underset{5}{\underline{\text{No error}}}$

15. I $\underset{1}{\underline{\text{told}}}$ Benny to $\underset{2}{\underline{\text{call}}}$ me at 7:00 because $\underset{3}{\underline{\text{that's}}}$ when I $\underset{4}{\underline{\text{be}}}$ home. $\underset{5}{\underline{\text{No error}}}$

ANSWERS AND EXPLANATIONS PART 1

EXERCISE 1

1. (2) **Enjoy** should be **enjoyed**. The sentence is in the past. The past tense of enjoy (enjoyed) is needed.

2. (1) **Does** should be **do**. Turn the question into a statement: The foremen at your plant do/does act as if they owned the place. The subject foremen is plural. It needs the plural verb do.

3. (4) **They** should be **he**. The pronoun refers to a compound that is joined together by nor. The pronoun should agree with the part of the compound that is closer to it. The singular Ben is closer. He agrees with Ben.

4. (5) **No error**

5. (3) **Bad** should be **badly**. The modifier refers to the verb hurt. The modifier should be an adverb. Badly is an adverb. Bad is an adjective.

6. (3) **Her** should be **she**. The pronoun is a part of a compound. The compound (Barbara and she) is the subject of the verb appeared. The pronoun should be the subject pronoun she.

7. (1) **Your** should be **you're**. You're stands for you are. It belongs in this sentence. Your is a possessive pronoun.

8. (2) **Their** should be **her**. The pronoun refers to a compound that is joined together by nor. The pronoun should agree with the compound part that is closer to it. The singular word Sally is closer. Her agrees with Sally.

9. (1) **Play** should be **plays**. The subject orchestra is a collective noun. In this sentence, orchestra is singular because the entire orchestra is acting as a single unit. The singular verb plays agrees with orchestra.

10. (5) **No error**

11. (4) **More playfuler** should be **more playful**. Do not use the two forms of comparison (-er and more) together. Use more with playful.

12. (3) **Himself** should be **themselves**. The pronoun refers back to the plural word husbands. The plural pronoun themselves is needed.

13. (3) **Beths** should be **Beth's**. To form the possessive of a singular word, add an apostrophe and s.

14. (2) **Ate** should be **eaten**. The verb is in the perfect tense. The past participle of eat is needed. Eaten is the past participle. Ate is the past tense of eat.

15. (1) **Which** should be **who** (or that). Do not use which to refer to a person.

EXERCISE 2

1. (3) Further should be **farther**. Use farther to describe a physical distance (we drove farther). Use further to describe a distance that is not physical.

2. (2) That there should be **that**. The phrase that there is not a standard phrase. Do not use it when you write a sentence.

3. (2) Him should be **he**. The pronoun is a part of a compound. The compound follows a form of the be verb (was). The pronoun should be a subject pronoun (he).

4. (2) They should be **he**. The pronoun refers to the singular word mayor. It does not refer to the phrase along with the governor and the senator. He is used because it is not clear whether the word mayor stands for a man or a woman. Also, notice that choice 3 (were) is correct even though the pronoun is he. This is because the statement is about something that is not true.

5. (2) Think should be **thinks**. The subject is a compound that is joined together by but also. The verb should agree with the subject part that is closer to it. The closer subject part is the singular word nurse.

6. (2) His should be **their**. The pronoun refers to a compound that is joined together by and. A compound joined together by and is always plural. The plural pronoun their agrees.

7. (3) Quick should be **quickly**. The modifier refers to the verb is learning. The modifier should be an advert. Quickly is an adverb. quick is an adjective.

8. (5) No error

9. (4) Like should be **as**. Use as instead of like to link a sentence with a fragment.

10. (4) Lawyers should be **lawyer's**. The possessive form of the word is needed. To form the possessive of lawyer, add an apostrophe and s.

11. (4) Heros should be **heroes**. The plural of the word hero is formed by adding -es to the word.

12. (2) Stole should be **stolen**. The verb is in the present perfect tense. The past participle of steal is needed. The past participle is stolen. Stole is the past tense of steal.

13. (2) Has should be **have**. The subject is a compound that is joined together by and. A compound subject joined together by and always takes a plural verb (have).

14. (3) Want should be **wants**. The subject of the verb is who. Who refers to everyone. The word everyone is always singular. Therefore, the verb

should be singular (wants).

15. (2) Nothing should be **anything**. The original sentence has a double negative. One of the negative words (nothing) should be taken out.

EXERCISE 3

1. (1) Could of should be **could have.** Do not use the word of in place of the verb have.

2. (2) More better should be **better.** Do not use two forms of comparison together. To compare two people or things, use better.

3. (1) I should be **me.** The pronoun is a part of a compound. The compound is not the subject of a verb, and it does not follow a be verb. The pronoun should be an object pronoun (me).

4. (2) Mouses should be **mice.** The plural form of mouse is mice.

5. (2) Was should be **were.** The subject is a compound that is joined together by and. A compound joined together by and always takes a plural verb (were).

6. (5) **No error** (Isn't agrees with the singular anything).

7. (4) Are should be **is.** Even though it ends in s, the word politics is singular. It takes the singular verb is.

8. (3) Lay should be **lie.** The word lie means to rest or recline. The word lay means to put of place something. Lie is needed in this sentence.

9. (4) An should be **a.** The first h in horrible is not silent. Use an only when the first h is a word is silent.

10. (3) Whomever should be **whoever.** Look at the sentence part that starts with the pronoun: whoever/whomever needs it. The pronoun is the subject of the verb needs. The pronoun should be a subject pronoun (whoever).

11. (3) Brung should be **brought.** The past participle of bring is brought. Brung is not a standard word.

12. (5) **No error** (Is agrees with the singular word working.)

13. (4) Themselves should be **himself.** The pronoun refers back to the singular subject each. The pronoun should be singular (himself).

14. (1) Good should be **well.** The modifier refers to the verb did. The modifier should be an adverb. Well is an adverb. Good is an adjective.

15. (5) **No error**

EXERCISE 4

1. (4) Accidently should be **accidentally.** The adverb accidentally is formed by adding -ly to the adjective accidental. Do not leave the al out even if you do not pronounce it.

2. (4) Us should be **our.** Use a possessive pronoun before an -ing verb that is used as a noun. In this sentence, coming is used as a noun. The correct pronoun is our.

3. (2) Kind of a should be **kind of.** Do not use a with phrases like kind of and sort of.

4. (3) Came should be **come.** The verb is in the present perfect tense. The past participle of come is needed. The past participle of come is come. Came is the past tense of come.

5. (3) I should be **me.** The pronoun is a part of a compound. The compound is not a subject, and it does not follow a be verb. Therefore, the object pronoun me is needed.

6. (2) They should be **he.** The pronoun refers to the singular word anyone. The pronoun should be singular. He is used because anyone can refer to either men or women.

7. (5) **No error**

8. (2) Around should be **about.** About means approximately. Around means in the area of. Use about to refer to numbers.

9. (2) Most farthest should be **farthest.** Do not use the two forms of comparison together.

10. (1) Whom should be **who.** Turn the question into a statement: You do think who/whom is most qualified among the four candidates. The pronoun is the subject of the verb is. The pronoun should be the subject pronoun who.

11. (4) Tomatos should be **tomatoes.** The plural of tomato is formed by adding -es.

12. (2) Their should be **its.** The pronoun refers to the word team. In this sentence, the team is acting as one unit. Team is singular in this sentence. The singular pronoun its is needed.

13. (5) **No error**

14. (5) **No error**

15. (3) Knows should be **Know.** Turn the question into a statement: Anyone does know/knows what Mr. Miller was wearing when he was last seen. The verb does already is singular to agree with the singular subject anyone.

When do or does is used as a helping verb, the main verb does not change its form. An s is not added to know.

EXERCISE 5

1. (5) No error

2. (4) Cent should be **cents**. The plural of cent is formed by adding -s to the word.

3. (2) Chose should be **chosen**. The subject of the sentence (Cy Roberts) is not performing the action of the verb. The verb should be the form of the helping verb be plus the past participle of the main verb. The past participle of chose is chosen.

4. (2) Was should be **were**. The subject is a compound that is joined together by and a compound joined together by and is always plural. The plural verb were should be used.

5. (1) There's should be **there are**. When a sentence begins with here or there, the verb usually agrees with a word that comes after it. In this sentence, the verb should agree with the plural word things. There are is correct. There's stands for there is.

6. (3) Write should be **writes**. The subject of the verb is the singular Claudia Harmon. The verb writes is singular to agree with its subject.

7. (5) No error

8. (4) Their should be **his**. The pronoun refers to the word someone. Someone always is singular. The pronoun should also be singular. His is used because someone can refer to either men or women.

9. (1) Isn't should be **is**. The phrase isn't hardly is a double negative. The sentence is changed so that one of the negative words (not) is taken out.

10. (1) Us should be **we**. Take out the word parents and look at the sentence: Us/We have a hard time. The pronoun is the subject of the verb have. The pronoun should be a subject pronoun. The pronoun we is correct.

11. (3) Sheeps should be **sheep**. The plural of sheep is sheep. No -s is added to it.

12. (5) No error

13. (2) Try and should be **try to**. Do not use the phrase try and when you write a sentence. Use try to instead.

14. (4) He should be **him**. Complete the sentence: When Jim and Dora get divorced, I think it will affect Dora much more that it will affect he/him. The pronoun should be the object pronoun him.

15. (2) Be should be **will be**. The verb should be in the future tense. To form the

future tense of be, place the helping verb will before be.

EXERCISE 6

1. (3) Is should be **are**. The verb should agree with the subject you. Are agrees with you.

2. (5) No error

3. (2) Enjoys should be **enjoy**. The subject is a compound that is joined together by nor. The verb should agree with the subject part that is closer to it. In this sentence, the closer subject part is I. Enjoy agrees with I.

4. (2) Slower should be **more slowly**. The modifier refers to the verb speak. The modifier should be an advert. More slowly is an adverb. Slower is an adjective.

5. (1) Their should be its. The singular pronoun its agrees with the singular word army.

6. (1) Her should be she. The pronoun is a part of a compound subject (Sally, Millie, and she). The subject pronoun she is needed.

7. (5) No error

8. (3) Besides should be **beside**. Beside means next to. Besides means in addition to. Beside is correct in this sentence.

9. (3) Had called should be **called**. In this sentence, two actions are in the past. The action that was completed first (had been home) should be in the past perfect tense. The other past action (called) should be in the simple past tense.

10. (3) Then should be than. Use than to compare people or things. Use then to refer to a specific time.

11. (5) No error

12. (2) Their should be his. The pronoun refers to the word person. Person is singular. His is used because the word person can refer to either men or women.

13. (2) He should be they. The pronoun refers to a compound that is joined together by and. A compound joined together by and is always plural. They is plural to agree with the plural compound.

14. (4) Less should be **fewer**. Use less to refer to a singular word. Use fewer to refer to a plural. In this sentence, fewer should refer to the plural word things.

15. (3) Myself should be me. The pronoun is part of a compound. The compound is not a subject, and it does not follow a be verb. The pronoun should be

the object pronoun me. The pronoun myself is wrong because the subject (Mrs. Garfield) does not refer back to itself in the sentence.

EXERCISE 7

1. (3) His should be **their**. The pronoun refers to the word who. Who refers to the plural word people. Therefore, who is plural in this sentence. It needs the plural pronoun their.

2. (2) Dogs should be **dog's**. The possessive form of the word dog is needed. To form the possessive of dog, add an apostrophe and -s to the word (dog's).

3. (5) No error

4. (2) Swim should be **swims**. The subject Betsey is singular. Add s to the verb (swims) to make it agree with the subject.

5. (1) Don't should be **doesn't**. The subject Elizabeth is singular. It needs a singular verb. Don't stands for do not, which is plural. Doesn't (does not) is correct.

6. (2) Their should be **his**. The pronoun refers to the singular Marty. It does not refer to the phrase as well as Georgia and Melba. The singular pronoun his is correct.

7. (3) More worse should be **worse**. Use the word worse by itself to compare two things. Do not use more or -er with the word worse.

8. (4) Her's should be **hers**. Do not use an apostrophe to form the possessive of a pronoun.

9. (5) No error. He (choice 4) is the subject of made.

10. (3) Between should be **among**. Use among with more than two people or things. Use between with only two people of things.

11. (1) Look should be **looked**. The action in the sentence is in the past. The past tense of look is looked.

12. (2) Was should be **were**. The subject doors is plural. the plural verb were agrees with doors.

13. (3) Their should be **his**. The pronoun refers to a compound that is joined together by but also. The pronoun should agree with the compound part that is closer to it. The closer compound part is the Secretary of State, which is singular. His is used because it is not clear whether the Secretary of State refers to a man or a woman.

14. (5) No error

15. (4) A should be **an**. The h in hour is silent. Use an before a word that begins with a silent h.

EXERCISE 8

1. (4) Most nice should be **nicest**. When a modifier has only one syllable, use the -est form of comparison instead of the word most. The word nice has only one syllable.

2. (2) She should be **her**. The pronoun is a part of a compound. the compound is not the subject of a verb, and it does not follow a be verb. The object pronoun her is needed.

3. (4) Child's should be **children's**. The plural of child is children, not childs. To form the possessive of the word children, add an apostrophe and s.

4. (4) Begun should be **began**. The past tense of the verb begin is needed. The past tense of the verb begin is needed. The past tense of begin is began. Begun is the past participle of begin, and it is wrong in this sentence.

5. (3) Am should be **are**. The subject of the verb is a compound that is joined together by and. A compound joined together by and is plural. The plural verb are agrees with the compound.

6. (3) Their should be **his**. The pronoun refers to the singular word someone. The pronoun should also be singular. His is used because someone can refer to either men or women.

7. (5) **No error**

8. (2) Off of should be **off**. Do not use the word of with the word off when you write a sentence.

9. (2) Good should be **well**. Use well instead of good to refer to a person's health.

10. (1) She should be **her**. The pronoun is a part of a compound. The compound is not the subject of a verb, and it does not follow a be verb. The object pronoun her is needed.

11. (1) Drove should be **driven**. The subject (Betty) is not doing the action of the verb. The verb should be formed with the be verb (was) plus the past participle of the main verb (drive). The past participle of drive is driven.

12. (1) Was should be **were**. The subject of the verb is that. That refers to the plural word cakes. That is plural in the sentence, and it needs a plural verb (were).

13. (3) They should be **it**. The word athletics is singular even though it ends in s. The singular pronoun it agrees with it.

14. (2) This here should be **this**. The phrase this here is not a standard phrase. Do not use it when you write a sentence.

15. (1) Its should be it's. It's stands for it is. Its is a possessive pronoun. It's belongs in this sentence.

EXERCISE 9

1. (1) Knifes should be knives. The plural of the word knife is formed by changing the fe to ve and adding -s.

2. (2) Frighten should be frightened. The past participle of the verb frighten is needed. The past participle of frighten is frightened.

3. (2) Has should be have. The subject of the verb is who. Who refers to the plural word women. In this sentence, who is plural. The plural verb have agrees with it.

4. (4) Turkies should be turkeys. The plural of the word turkey is formed by adding -s to the word.

5. (3) Hisself should be himself. Hisself is not a standard word. The correct pronoun is himself.

6. (3) Who's should be whose. the possessive form of the pronoun who is whose. Whose belongs in this sentence. Who's stands for who is.

7. (5) No error

8. (1) Would of should be would have. Do not use the word of in place of the helping verb have.

9. (2) Be should be will be. The verb should be in the future tense. The future tense of be is formed by placing the helping verb will before the verb be.

10. (2) His' should be his. Do not use an apostrophe with a possessive pronoun.

11. (3) Which should be whom. Do not use which to refer to people. The object pronoun whom is needed in this sentence.

12. (4) Worser whould be worse. Worser is not a standard word. The correct word to use is worse.

13. (1) Incidently should be incidentally. The adverb incidentally is formed by adding -ly to the adjective incidental. Do not leave out the al even if you do not pronounce it.

14. (2) Them should be their. A possessive pronoun should be used before an -ing verb that is used as a noun. In this sentence, wanting is an -ing verb used as a noun. The possessive pronoun their is needed.

15. (2) Stops hould be stop. The subject of the verb is the pronoun I. Stop agrees with I.

EXERCISE 10

1. (3) Your should be **you're**. You're stands for you are. You're is needed in this sentence (you are saying). Your is a possessive pronoun.

2. (1) Who should be **whom**. Look at the sentence part that starts with the pronoun: who/whom I am sure you all know quite well. The pronoun is not the subject of a verb. It does not follow a be verb. Therefore, the object pronoun whom is needed.

3. (4) Cent should be **cents**. The plural of the word cent is formed by adding -s to the word.

4. (2) Filled should be **had filled**. Change the verb to the past perfect tense to show that its action was completed first.

5. (5) No error

6. (1) Are should be **is**. The subject of the verb is a compound that is joined together by nor. The verb should agree with the subject part that is closer to it. In this sentence, the verb is agrees with the singular subject part Juan.

7. (2) Most strongest should be **strongest**. Do not use the -est and most forms of comparison together.

8. (1) Them should be **those**. Do not use the word them to point out a group of people or things.

9. (2) Tree's should be **trees'**. The sentence is about more than one tree. The possessive of the plural word trees is needed. To form the possessive of trees, add an apostrophe to the word.

10. (4) Their should be **his**. The pronoun refers to the word everyone. Everyone is always singular. his is used because everyone can refer to either men or women.

11. (5) No error

12. (4) Workers' should be **workers**. The possessive form of the plural word workers is not needed in this sentence.

13. (5) No error

14. (3) Farther should be **further**. The sentence is about a distance that is not physical. Use further to describe a distance that is not physical. Use farther to describe a physical distance.

15. (4) They're should be **their**. The possessive pronoun their is needed in this sentence. They're stands for they are.

EXERCISE 11

1. (2) She should be **her**. The pronoun is part of a compound. The compound is not the subject of a verb, and it does not follow a be verb. The object pronoun her is needed.

2. (1) Wifes' should be **wife's**. To form the possessive of the word wife, add an apostrophe and s.

3. (2) Pianoes should be **pianos**. The plural of the word piano is formed by adding -s to the word.

4. (1) Is should be **are**. The subject of the verb is that. That refers to the plural word cars. In this sentence, that is plural. The plural verb are agrees with it.

5. (2) Wants should be **want**. The subject of the verb is the plural word parents. The verb should be plural (want) to agree with it. The phrase as well as my sister is not a part of the subject.

6. (1) Bad should be **badly**. The modifier refers to the verb did. The modifier should be an adverb. Badly is an adverb. Bad is an adjective.

7. (4) He should be **him**. The modifier refers to the verb did. The modifier should be an adverb. Badly is an adverb. Bad is an adjective.

8. (1) Move should be **moves**. The subject of the verb is the singular Chris. The singular verb moves agrees with it.

9. (2) Have should be **has**. The subject of the verb is the singular word bunch. The word grapes is not the subject. The singular verb has agrees with it.

10. (2) Her should be **their**. The pronoun refers to a compound that is joined together by and. A compound joined together by and is plural. The plural pronoun their is needed.

11. (5) No error

12. (3) Marks' should be **Mark's**. To form the possessive of a person's name, add an apostrople and s to the name.

13. (2) less should be **fewer**. Use the word fewer to refer to more than one person or thing. Use less to refer to only one person or thing.

14. (2) Who should be **whom**. Look at the sentence part that starts with the pronoun: who/whom I've always trusted. The pronoun is not the subject of the verb trusted. It does not follow a form of the verb be. Therefore, the object pronoun whom is needed.

15. (3) Who's should be **whose**. The possessive form of the pronoun who is needed in this sentence. The possessive of who is whose. Who's stands for who it.

EXERCISE 12

1. (3) Done should be did. The verb is not a perfect tense verb. The past tense of the verb do is needed. The past tense of do is did. Done is the past participle of do.

2. (2) Knowed should be knew. The correct past tense of the verb know is knew. Knowed is not a standard word.

3. (3) Lives should be live. The subject of the verb is who. Who refers to the plural word children. Who is plural in this sentence. The verb live is plural to agree.

4. (4) Kinder should be kindest. Use the -est form of comparison when more than two people or things are being compared.

5. (3) Him should be his. Use a possessive pronoun before an -ing that is used as a noun. In this sentence, the -ing verb driving is used as a noun. The right pronoun to use is his.

6. (3) Our's should be ours. Do not use an apostrophe to form a possessive pronoun.

7. (4) Them should be those. Do not use the word them to point out particular people or things.

8. (5) No error

9. (1) Rung should be rang. The past tense of the verb ring is needed in this sentence. The past tense of ring is rang. Rung is the past participle of ring.

10. (2) Understanded should be understood. The past participle of the verb understand is understood. Understanded is not a standard word.

11. (2) Most favoritest should be most favorite. Do not use the -est and most forms of comparison together. The word favorite has three syllables. Use most with favorite.

12. (2) Plans should be plan. The subject of the verb is a compound that is joined together by and. A compound joined together by and is plural. The plural verb plan is needed.

13. (2) Their should be his. The word that the pronoun refers to is the singular anyone. The pronoun also should be singular to agree with anyone. His is used because anyone can refer to either men or women.

14. (5) No error

15. (2) Cats' should be cat's. The sentence is about one cat. To form the possessive of the word cat, add an apostrophe and s to the word.

EXERCISE 13

1. (5) No error

2. (3) Gave should be given. The verb is in the present perfect tense. The past participle of the verb give is needed. The past participle of give is given. Gave is the past tense of give.

3. (4) Be should be are. The be verb should be changed into its proper tense form. The action in the sentence is taking place in the present. The subject we is plural. Therefore, the verb are is needed.

4. (1) There's should be there are. When a sentence begins with here or there, the verb usually agrees with a word that comes after it. In this sentence, the verb should agree with the plural word things. The correct verb is are. There's stands for there is, and it wrong in this sentence.

5. (1) Have should be has. The subject of the verb is the singular Roger Mackenzie. The verb should be singular (has) to agree.

6. (2) Pat should be Pat's. A noun that comes before an -ing verb that is used as a noun should be in the possessive form. The possessive form of the name Pat is Pat's.

7. (2) Slow should be slowly. The modifier refers to the verb drives. The modifier should be an adverb. Slowly is an adverb. Slow is an adjective.

8. (4) Less should be fewer. The modifier refers to the plural word fats. Use fewer with plural words. Use less with singular words.

9. (1) Myself should be I. The pronoun is a part of a compound subject. The subject pronoun I is needed.

10. (4) Froze should be frozen. The subject pond is not doing the action of the verb. The verb should be formed by putting a be verb (was) before the past participle of the main verb. The past participle of freeze is frozen. Froze is the past tense of freeze.

11. (2) Haven't should be have. The words haven't hardly are a double negative. Haven't should be changed to have to get rid of one of the negative words.

12. (5) No error

13. (1) She should be her. The pronoun is a part of a compound. The compound is not a subject, and it does not follow a be verb. The object pronoun her is needed.

14. (3) Weather should be whether. The word whether indicates a choice between two or more things. The word weather refers to the climate. Whether (a choice) is the correct word in this sentence.

15. (4) Be should be will be. The future tense of be is needed. To form the future tense of any verb, but the helping verb before the main verb.

PART 2

This part of the English preparation will cover sentence structure and meaning. Included here is a series of exercises designed to give you exposure to the many possible errors found in sentence structure. Also included is an answer sheet with the correct answers and a brief explanation of why that answer is correct. It is essential that you have a good background in basic English skills and sentence structure. If you need to brush-up in this area first, ask your teacher to recommend materials to use for this purpose. Once again, this part of the English preparation is a series of exercises given for the purpose of applying basic English skills. It is essential that these basic English skills be reviewed and retained.

Effectiveness of Expression

EXERCISE 1

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Ron wanted to go to the movies his wife wouldn't go with him.

    (1) the movies his wife
    (2) the movies, his wife
    (3) the movies; his wife
    (4) the movies; his wife,
    (5) the movies and his wife

2. If Jane is going on the picnic then I will go.

    (1) picnic then
    (2) picnic; then
    (3) picnic. Then
    (4) picnic, and then
    (5) picnic, then

3. Roy bought Monica a dozen roses; because it was her birthday.

    (1) roses; because
    (2) roses: because
    (3) roses. Because
    (4) roses; because,
    (5) roses because

4. The new car is either blue or it has a brown color.

    (1) blue or it has a brown color
    (2) blue, or it has a brown color
    (3) blue or the color of brown
    (4) blue or it is a brown color
    (5) blue or brown

5. When the weather is hot, the beach gets crowded.

   (1) hot, the beach
   (2) hot the beach
   (3) hot; the beach
   (4) hot; the beach,
   (5) hot. The beach

6. I didn't mean to be rude when I am asking you how old you are.

   (1) am asking
   (2) asks
   (3) asked
   (4) will ask
   (5) has asked

7. The battery is dead as a result the car won't run.

   (1) dead as a result the car
   (2) dead, as a result the car
   (3) dead, as a result, the car
   (4) dead; as a result the car
   (5) dead; as a result, the car

8. After Alice was married for only six months, she began to think about divorce.

   (1) was married
   (2) had been married
   (3) is married
   (4) has been married
   (5) marries

9. Working on the project, a thought occurred to Andrew.

   (1) Working on the project
   (2) Worked on the project
   (3) He worked on the project
   (4) As he worked on the project
   (5) Thinking while working on the project

10. Not only Bob but also Jack is bringing his wife to the game.

   (1) is bringing his
   (2) are bringing their
   (3) is bringing their
   (4) will bring their
   (5) will be bringing their

EXERCISE 2

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Done with the laundry at last, a cup of coffee was what Audrey wanted.
    - (1) a cup of coffee was what Audrey wanted
    - (2) to Audrey a cup of coffee looked good
    - (3) Audrey wanted a cup of coffee
    - (4) coffee was what Audrey wanted
    - (5) what Audrey wanted was a cup of coffee
2. For her birthday, Rick took Lorna out to dinner, which was very nice.
    - (1) which was very nice
    - (2) which was lovely
    - (3) who was very nice
    - (4) that was very nice
    - (5) which was very nice of him
3. Even though it was raining the game was played.
    - (1) raining the game
    - (2) raining, the game
    - (3) raining; the game
    - (4) raining: the game
    - (5) raining. The game
4. Cindy wants to meet me at 3:00 and that we should have dinner at 5:00.
    - (1) that we should have dinner at 5:00
    - (2) have dinner at 5:00
    - (3) we should have dinner at 5:00
    - (4) dinner at 5:00
    - (5) having dinner at 5:00
5. The car parked by our house with bucket seats just got a parking ticket.
    - (1) The car parked by our house with bucket seats
    - (2) The parked car by our house with bucket seats
    - (3) By our house with bucket seats, the parked car
    - (4) The car with bucket seats parked by our house
    - (5) The car parked with bucket seats by our house
6. I am leaving on the next plane. And arriving in Los Angeles at midnight.
    - (1) plane. And
    - (2) plane; and
    - (3) plane and
    - (4) plane, and
    - (5) plane: and
7. I lose sight of the eagle; suddenly, though, it appeared directly overhead.
    - (1) lose
    - (2) have lost
    - (3) am losing
    - (4) had lost
    - (5) lost

8. If anyone wants to enter the drawing, you should fill out an entry form.
   - (1) you should
   - (2) he should
   - (3) they should
   - (4) all should
   - (5) should

9. More energy is used in America than by any other country.
   - (1) than by any other country
   - (2) then by any other country
   - (3) than in any other country
   - (4) than in any country
   - (5) then by all countries

10. The chinese restaurant has been robbed on Main Street.
    - (1) has been robbed on Main Street
    - (2) on Main Street has been robbed
    - (3) being robbed on Main Street
    - (4) on Main Street being robbed
    - (5) robbed on Main Street

EXERCISE 3

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Not only Nancy and also Helene have a nasty temper.
   - (1) Not only Nancy and also Helene have
   - (2) Both Nancy and also Helene has
   - (3) Not only Nancy but also Helene have
   - (4) both Nancy and Helene has
   - (5) Not only Nancy but also Helene has

2. The supermarket is having a sale on canned tomatoes, bottled water, and peas that are frozen.
   - (1) and peas that are frozen
   - (2) and, peas that are frozen
   - (3) and peas that be frozen
   - (4) and, peas frozen
   - (5) and frozen peas

3. Ben is a good singer and dances well.
   - (1) singer and dances well
   - (2) singer, and dances well
   - (3) singer and dancer
   - (4) singer, and dancer
   - (5) singing and dancing well

4. Harold wants a legal separation or to be divorced, whichever is easier.

   (1) to be divorced
   (2) being divorced
   (3) a divorce
   (4) to become divorced
   (5) divorcing

5. The man who lives next door to me he is a horse trainer.

   (1) he is a horse trainer
   (2) he is an horse trainer
   (3) he trains horses
   (4) he is a trainer of horses
   (5) is a horse trainer

6. Both Bea and her brother Mack works in the toy store.

   (1) works
   (2) work
   (3) is working
   (4) has worked
   (5) working

7. Ernie says he would take me to work tomorrow.

   (1) would take
   (2) will take
   (3) has taken
   (4) would be taking
   (5) will have took

8. Carmine's phone rang while sleeping.

   (1) while sleeping
   (2) while asleep
   (3) when sleeping
   (4) while he was sleeping
   (5) when being asleep

9. At the age of seven, Margie taught her daughter how to swim.

   (1) Margie taught her daughter how to swim
   (2) Margie learned her daughter how to swim
   (3) Margie taught her daughter about swimming
   (4) Margie's daughter learned how to swim
   (5) teaching her daughter how to swim was Margie

10. Derrick may be lazy, but at least he is honest about it.

   (1) lazy, but
   (2) lazy, but,
   (3) lazy but
   (4) lazy; but,
   (5) lazy: but

EXERCISE 4

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Whether playing or just to watch, football is an exciting game.

   (1) Whether playing or just to watch
   (2) Weather playing or just to watch
   (3) Whether playing or just watching
   (4) Weather playing or just watching
   (5) Whether play or just watch

2. Neither Donna nor Keith want their baked potato served with sour cream.

   (1) want their
   (2) wants his
   (3) wants her
   (4) wants their
   (5) want his

3. Neither the owner of the building, nor the superintendent, will see me.

   (1) building, nor the superintendent, will
   (2) building, or; the superintendent, will
   (3) building or the superintendent will
   (4) building nor the superintendent will
   (5) building, nor, the superintendent, will

4. If I had known you were in trouble, I would help you out.

   (1) would help
   (2) will help
   (3) would have helped
   (4) might help
   (5) may help

5. Veronica is in a bad mood, so I'd stay sway from her if I were you.

   (1) mood, so
   (2) mood; so
   (3) mood so
   (4) mood so,
   (5) mood, so,

6. Jill loves to draw, paint, and sculpting.

   (1) sculpting
   (2) loves to sculpt
   (3) sculpture
   (4) sculpting is fun, too
   (5) sculpt

7. If I take the 3:15 train, I am arriving at Grand Central Station at 4:48.

   (1) am arriving
   (2) will arrive
   (3) arrived
   (4) be
   (5) have arrived

8. I don't know what to do, maybe Phil has some ideas.

   (1) do, maybe
   (2) do maybe
   (3) do, while maybe
   (4) do. Maybe
   (5) do so maybe

9. Always living on the edge of danger, a sprained ankle didn't bother Joey.

   (1) a sprained ankle didn't bother Joey
   (2) a sprained ankle was, to Joey, nothing
   (3) Joey wasn't bothered by a sprained ankle
   (4) a sprained ankle to Joey meant nothing
   (5) for Joey a sprained ankle was nothing

10. A person should keep very busy when you are feeling down.

   (1) you are
   (2) he is
   (3) she is
   (4) they are
   (5) it is

EXERCISE 5

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Not only did Phoebe sing beautifully, she also danced well.

   (1) she also danced well
   (2) also she danced well
   (3) she danced well, also
   (4) but she danced well
   (5) but she also danced well

2. Horace had learned about the problem after it had been solved.

   (1) had learned
   (2) learned
   (3) has learned
   (4) will have learned
   (5) is learning

3. Most of the workers, including the foreman, want more money.

(1) workers, including the foreman, want
(2) workers including the foreman, want
(3) workers including, the foreman wants
(4) workers including the foreman want
(5) workers and the foreman wants

4. A book from the library, which is old, hasn't been checked out since 1949.

(1) A book from the library, which is old
(2) A book from the library, which is absolutely ancient
(3) A book, which is from the library, which is old
(4) An old book from the library
(5) A old book from the library

5. When the power was lost, the clock stopping.

(1) the clock stopping
(2) the clock's stopping
(3) the clock stopped
(4) the clock stops
(5) the clock had stop

6. I like to ride horses more than I like jogging.

(1) jogging
(2) running
(3) the sport of jogging
(4) to jog
(5) my jogging

7. Lying in bed last night, I knew I fail the geometry test I had taken.

(1) fail
(2) have failed
(3) had failed
(4) failed
(5) am failing

8. Taking the bus is cheaper as traveling by plane.

(1) cheaper as
(2) cheaper than
(3) as cheaper as
(4) cheap than
(5) cheaper then

9. Martha came home last night and says she had had a terrible day at the day care center.

(1) says
(2) is saying
(3) has said
(4) have said
(5) said

10. Martin called to tell me that he would be late his car wouldn't start.
    (1) late his car
    (2) late, his car
    (3) late; his car
    (4) late and his car
    (5) late so his car

EXERCISE 6

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Left without a cent, survival seemed impossible to the new widow.
    (1) survival seemed impossible to the new widow
    (2) to the new widow, survival seemed impossible
    (3) survival, to the new widow, seemed impossible
    (4) the new widow felt survival was almost impossible
    (5) to the new widow, survival was, almost, impossible
2. I'm looking forward to Elaine's wedding, it will be the first wedding I've attended in a long time.
    (1) wedding, it
    (2) wedding it
    (3) wedding; it
    (4) wedding as it
    (5) wedding and it
3. Everybody should take good care of themselves by eating properly and exercising.
    (1) themselves
    (2) himself
    (3) yourselves
    (4) him or herself
    (5) yourself
4. No one objects to Steven going into the army.
    (1) objects to Steven going
    (2) object to Steven going
    (3) object to Steven's going
    (4) objects to Steven's going
    (5) objected to Steven going
5. Phyllis has neither the time or the money to go on a vacation.
    (1) the time or the money
    (2) the time or has the money
    (3) the time nor the money
    (4) the time, nor the money
    (5) the time or money

6. By the time you get here, I will have eaten dinner.

   (1) will have eaten
   (2) would have eaten
   (3) ate
   (4) had eaten
   (5) will be eaten

7. Watching horse races are exciting.

   (1) races are exciting
   (2) races, are exciting
   (3) races is exciting
   (4) races, is exciting
   (5) races be exciting

8. Jimmy walked to the corner, and turned left onto Main Street.

   (1) corner, and
   (2) corner. And
   (3) corner and
   (4) corner; and
   (5) corner, and then

9. I listen to the news when I drive to work or wash the dishes.

   (1) or wash the dishes
   (2) or to wash the dishes
   (3) or washing the dishes
   (4) or, wash the dishes
   (5) or an washing the dishes

10. Rosalie had stage fright so badly that she thought she is going to faint.

   (1) is
   (2) was
   (3) will be
   (4) may be
   (5) been

EXERCISE 7

DIRECTIONS: Beneath each sentence there are five ways of writing the underlined part. Choose the answer that makes the best sentence and circle the number of that answer. Answer choice 1 is always the same as the underlined part and is sometimes the right answer.

1. Neither Sam or I have any connection with the former mayor's political machine.

   (1) Neither Sam or I have
   (2) Neither Sam or I has
   (3) Neither Sam nor I have
   (4) Neither Sam nor I has
   (5) Neither Sam nor myself have

2. The tree by the house with the yellow leaves is dying.

    (1) by the house with the yellow leaves
    (2) with the yellow leaves by the house
    (3) by the house, with the yellow leaves,
    (4) which is by the house with the yellow leaves
    (5) by the house which has yellow leaves

3. At the bank, they have credit card applications.

    (1) they have
    (2) have
    (3) there are
    (4) there's
    (5) it has

4. Brenda is not only funny, but also has intelligence.

    (1) funny, but also has intelligence
    (2) funny, she also has intelligence
    (3) funny but also with intelligence
    (4) funny but also intelligent
    (5) funny but intelligent too

5. Although he ran away, despite that fact he still loved his parents.

    (1) away, despite that fact he
    (2) away, despite the fact that he
    (3) away, he
    (4) away despite that, he
    (5) away; despite that fact he

6. Mona just got here yesterday now she says she's leaving tomorrow.

    (1) yesterday now
    (2) yesterday. Now
    (3) yesterday, now
    (4) yesterday and now
    (5) yesterday while now

7. Karen found the ring she lost last month.

    (1) lost
    (2) has lost
    (3) had lost
    (4) loses
    (5) was losing

8. Frank writes letters to everyone; for example, his mother.

    (1) everyone; for example, his mother
    (2) everyone, for example his mother
    (3) everyone for example his mother
    (4) everyone; for example, writing to his mother
    (5) everyone; for example, he writes to his mother

9. The coat with the fur collar, and the wool sweater belongs to my sister.

(1) collar, and the wool sweater belong
(2) collar, and the wool sweater, belong
(3) collar, and the wool sweater, belongs
(4) collar and the wool sweater belong
(5) collar and the wool sweater, belongs

10. Streaking across the sky, Mel watched a shooting star.

(1) Streaking across the sky, Mel watched a shooting star
(2) Streaking across the sky Mel watched a shooting star
(3) Mel watched streaking across the sky a shooting star
(4) Mel watched a shooting star streaking across the sky
(5) Mel, streaking across the sky, watched a shooting star

ANSWERS AND EXPLANATIONS

EXERCISE 1

1. (3) Ron wanted to go to the movies; his wife wouldn't go with him. In the original sentence, two complete sentence parts are not separated. A compound sentence should be separated. Only choice 3 gives a correct way to separate the parts of a compound sentence.

2. (5) If Jane is going on the picnic, then I will go. When a fragment comes before the main sentence part, a comma should separate the fragment from the sentence.

3. (5) Roy bought Monica a dozen roses because it was her birthday. The sentence is not a compound sentence. The fragment should not be separated from the main part by a semicolon, a colon, or a comma.

4. (5) The new car is either blue or brown. The sentence is changed so that the compound adjective (blue or brown) has a parallel structure.

5. (1) When the weather gets hot, the beach gets crowded. This sentence is correct as it is.

6. (3) I didn't mean to be rude to you when I asked you how old you are. The action in the sentence is in the past. The verb is changed from the present tense to the past tense.

7. (5) The battery is dead; as a result, the car won't run. When as a result connects two sentences in a compound, a semicolon comes before it and a comma comes after it.

8. (2) After Alice had been married for only six months, she began to think about divorce. The action in the sentence is in the past. The verb that tells the action happened first is changed to the past perfect tense (had been married).

9. (4) As he worked on the project, a thought occurred to Andrew. The sentence is changed so that the person who was working on the project is identified clearly.

10. (1) Not only Bob but also Jack is bringing his wife to the game. This sentence is correct as it is.

EXERCISE 2

1. (3) Done with the laundry at last, Audrey wanted a cup of coffee. The sentence is changed to show clearly who was done with the laundry.

2. (5) For her birthday, Rick took Lorna out to dinner, which was very nice of him. In the original sentence, it is not clear whether the dinner or Rick's

taking Lorna out to dinner was very nice. The sentence is changed so that its meaning is made clear.

3. (2) Even though it was **raining, the game** was played. When a fragment comes before the main part of a sentence, the fragment and the sentence should be separated by a comma.

4. (2) Cindy wants to meet me at 3:00 and **have dinner at 5:00.** The sentence is changed so that the compound meet and have has a parallel structure.

5. (4) **The car with the bucket seats parked by our house** just got a parking ticket. The sentence is changed to make it clear that the car, not the house, has bucket seats.

6. (3) I am leaving on the next **plane and** arriving in Los Angeles at midnight. In the original problem, the second sentence is a fragment. It is the second part of a compound (leaving and arriving). Do not separate two compound parts.

7. (4) **I had lost** sight of the eagle; suddenly, though, it appeared directly overhead. The verb appeared shows that the action in the sentence is in the past. The verb had lost is in the past perfect tense to show which of the two past actions happened first.

8. (2) If anyone wants to enter the drawing, **he should** fill out an entry form. The pronoun refers to the singular word anyone. Do not use the pronoun you to refer to words like anyone. He is used in this sentence because anyone can refer to either men or women.

9. (3) More energy is used in America **than in any other country.** Two things are being compared. The things being compared (in America and in any other country) should have parallel structure.

10. (2) The Chinese restaurant **on Main Street has been robbed.** The sentence is changed so that the phrase on Main Street is closer to the thing that it refers to (the Chinese restaurant).

EXERCISE 3

1. (5) **Not only Nancy but also Helene has** has a nasty temper. The correct connector is not only ... but also. The verb has is singular to agree with the closer subject part Helene.

2. (5) The supermarket is having a sale on canned tomatoes, bottled water, **and frozen peas.** The sentence is changed to make it shorter and to give the compound a parallel structure.

3. (3) Ben is a good **singer and dancer.** The compound singer and dancer has a parallel structure. None of the other answer choices have a parallel structure.

4. (3) Harold wants a legal separation or a divorce, whichever is easier. To be divorced is changed to a divorce to give the compound (separation and divorce) a parallel structure. Both parts of the compound are nouns.

5. (5) The man who lives next door to me is a horse trainer. The pronoun he is taken out of the sentence. He only renames the subject of is (man). The pronoun he is not needed.

6. (2) Both Bea and her brother Mack work in the toy store. The compound subject is joined together by and. A compound joined together by and is plural. The plural verb work is needed.

7. (2) Ernie says he will take me to work tomorrow. The future tense of take is needed. The future tense of take is will take. Would is the past tense of will.

8. (4) Carmine's phone rang while he was sleeping. The sentence is changed so that the person who was sleeping is identified clearly.

9. (4) At the age of seven, Margie's daughter learned how to swim. The sentence is changed so that the phrase at the age of seven clearly refers to Margie's daughter, not to Margie.

10. (1) Derrick may be lazy, but at least he is honest about it. This sentence is correct as it is.

EXERCISE 4

1. (3) Whether playing or just watching, football is an exciting game. The sentence is changed so that the compound parts (playing and watching) have a parallel structure. Whether (a choice between things) is the correct word to use.

2. (2) Neither Donna nor Keith wants his baked potato served with sour cream. The compound subject is joined together by nor. The verb and the pronoun should agree with the closer subject part. Wants and his agree with Keith.

3. (4) Neither the owner of the building nor the superintendent will see me. Do not separate two parts of a compound with a comma. Also, do not put a comma between a subject and a verb.

4. (3) If I had known you were in trouble, I would have helped you out. The verb is put in the present perfect tense to agree with the other verb in the sentence.

5. (1) Veronica is in a bad mood, so I'd stay away from her if I were you. This sentence is correct as it is.

6. (5) Jill loves to draw, paint, and sculpt. Sculpting is changed to sculpt to give the compound a parallel structure.

7. (2) If I take the 3:15 train, I will arrive at Grand Central Station at 4:48. The verb will arrive is in the future tense because the arrival cannot happen unless the train is taken.

8. (4) I don't know what to do. Maybe Phil has some ideas. Only answer choice 4 gives a correct way to separate two complete sentences.

9. (3) Always living on the edge of danger, Joey wasn't bothered by a sprained ankle. The sentence is changed so that the fragment always living on the edge of danger clearly refers to Joey, not to the ankle.

10. (2) A person should keep very busy when he is feeling down. Do not use the pronoun you to refer to the word person.

EXERCISE 5

1. (5) Not only did Pheobe sing beautifully, but she also danced well. When not only ... but also is used as a sentence connector, non of its words should be left out. In the original sentence, the word but was left out of but also.

2. (2) Horace learned about the problem after it has been solved. The action in the sentence is in the past. The past perfect tense is used with the action that happened first (had been solved). The action that happened last (learned) should be in the past tense.

3. (1) Most of the workers, including the foreman, want more money. The sentence is correct as it is.

4. (4) An old book from the library hasn't been checked out since 1949. The sentence is changed to show that the book, not the library, is old.

5. (3) When the power was lost, the clock stopped. The action in the sentence is in the past. In the original sentence, two fragments are joined together. The verb stop is put in the past tense to make the second sentence part of a complete sentence.

6. (4) I like to ride horses more than I like to job. Two things are being compared (to ride and to jog). Jogging is changed to to jog to give the sentence a parallel structure.

7. (3) Lying in bed last night, I knew I had failed the geometry test I had taken. The action in the sentence is in the past. All the verbs should be in the past. Had failed is in the past perfect tense because the failing happened before I knew about it.

8. (2) Taking the bus is cheaper than traveling by plane. Use than to compare things that are not equal. Use as to compare things that are equal.

9. (5) Martha came home last night and said she had had a terrible day at the

day care center. The action in the sentence is in the past. The past tense of say is said.

10. (3) Martin called to tell me that he would be **late; his car** wouldn't start. The two complete sentence parts should be separated. Only answer choice 3 gives a correct way to separate two complete sentences.

EXERCISE 6

1. (4) Left without a cent, **the new widow felt survival was almost impossible.** The sentence is changed so that the fragment left without a cent clearly refers to the widow.

2. (3 I'm looking forward to Elaine's **wedding;** it will be the first wedding I've attended in a long time. Do not use a comma by itself to join two complete sentences in a compound. Only answer choice 3 gives a correct way to join the sentences together.

3. (2) Everybody should take good care of **himself** by eating properly and exercising. The pronoun refers to the singular word everybody. The pronoun should be singular to agree. Himself is used because everybody can refer either to men or women.

4. (4) No one **objects to Steven's going** into the army. The verb objects agrees with the singular subject no one. A noun that comes before an -ing verb used as a noun should be in the possessive form (Steven's).

5. (3) Phyllis has neither **the time nor the money** to go on a vacation. Do not use the word or with neither. Use nor with neither.

6. (1) By the time you get here, I will have eaten dinner. This sentence is correct as it is.

7. (3) Watching horse **races is exciting.** The subject of the sentence is the word watching, not races. An -ing verb that is used as a noun is always singular. The singular verb is is needed.

8. (3) Jimmy walked to the **corner and** turned left onto Main Street. Do not separate two parts of a compound with a comma.

9. (1) I listen to the news when I drive to work or wash the dishes. This sentence is correct as it is.

10. (2) Rosalie had stage fright so badly that she thought she **was** going to faint. The action in the sentence is in the past. The past tense verb was is needed.

EXERCISE 7

1. (3) **Neither Sam nor I** have any connection with the former mayor's political machine. Do not use the word or with neither. Use nor with neither.

2. (2) The tree **with the yellow leaves by the house** is dying. The phrase with the yellow leaves is moved closer to the thing that it refers to (the tree).

3. (3) At the bank, **there are** credit card applications. In the original sentence, the pronoun they does not refer to anyone. The sentence is changed to make its meaning clear by getting rid of the unclear pronoun.

4. (4) Brenda is not only **funny but also intelligent.** Has intelligence is changed to intelligent to give the parts of the compound (funny and intelligent) a parallel structure. Both parts of the compound are adjectives.

5. (3) Although he ran **away, he** still loved his parents. In the original sentence, both sentence parts are fragments. The sentence is changed so that one of the parts is a complete sentence. He still loved his parents is the complete sentence part.

6. (2) Mona just got here **yesterday. Now** she says she's leaving tomorrow. The two complete sentence parts are separated. Only answer choice 2 gives a correct way to separate two complete sentences.

7. (3) Karen found the ring she **had lost** last month. The action in the sentence is in the past. Had lost is the past perfect tense because it stands for the action that happened first.

8. (5) Frank writes letters to **everyone; for example, he writes to his mother and his ex-wife.** When a semicolon is used to connect two sentence parts, each part should be a complete sentence. Only answer choice 5 gives a proper sentence connection.

9. (4) The coat with the fur **collar and the wool sweater belong** to my sister. Do not use a comma to separate two parts of a compound.

10. (4) **Mel watched a shooting star streaking across the sky.** The sentence is changed so that the words streaking across the sky refer clearly to the star, not to Mel.

Vocabulary

to use in preparation for

- Business School Entrance Exam (Aptitude Test)
- LPN Entrance Exam (PSB)
- College (English) Placement

Vocabulary skills are not acquired quickly. An extensive vocabulary is developed over years of conscientious reading. However, in our experience as teachers, we've found that many ABLE student seeking to prepare for an entrance exam allow less than one month to review all subject areas. In addition, students usually find vocabulary texts too cumbersome for a quick review.

After reviewing numerous word lists, I found this that follows (taken from *Preparation for the SAT)* to be the most comprehensive yet manageable for a student to learn in a relatively short time. However, if you want to prescribe a vocabulary text, choose something "doable," like *The Vocabulary Builder: The Practically Painless Way to a Larger Vocabulary.* This handbook incorporates word games such as crossword puzzles and scrambled maxims throughout the text and makes for a less tedious review.

Another method . . .

. . . for improving vocabulary skills is to look at the parts, or structure, of a word. By learning the meanings of the more widely used roots, prefixes, and suffixes in our language, the student can learn the meaning of unknown words. A word of caution: this approach to vocabulary improvement is not appropriate for the student who wants a 'quick fix.'

Selective Bibiography

The Vocabulary Builder: The Practically Painless Way to a Larger Vocabulary. Chicago: Contemporary Book, Inc.

WORD LIST

aberration *(noun)* Deviation from what is correct or right.

abeyance *(noun)* Suspension of an activity; postponement.

abstemious *(adj)* Sparing in use of food or drink; moderate.

abstruse *(adj)* Concealed; difficult to comprehend; obscure.

accolade *(noun)* Embrace; award; commendation.

acerbic *(adj)* Bitter; harsh; caustic.

acrimonious *(adj)* Sarcastic; caustic; angry; mordant.

acuity *(noun)* Sharpness, acuteness; keenness.

acute *(adj)* 1. Perceptive. 2. Excruciating.

adept *(adj)* Proficient; masterful; expert.

adherent *(noun)* Believer; supporter; devotee.

adjunct *(noun)* 1. Attachment; appendage. 2. Subordinate or auxiliary capacity.

admonish *(verb)* Caution; reprove mildly; reprimand.

adroit *(adj)* Dexterous; proficient; skillful.

adulation *(noun)* Excessive flattery; adoration; idolization.

adulterate *(verb)* Make impure or inferior by adding improper ingredients; contaminate; pollute.

advocate *(verb)* 1. Argue for a cause; defend. 2. Support; uphold.

aesthete *(noun)* Person who cultivates beauty or art; connoisseur.

aggrandize *(verb)* Make more powerful; amplify; increase.

alacrity *(noun)* Eagerness; zeal; speed.

altruistic *(adj)* Concerned about the general welfare of others; charitable; generous.

ambivalence *(noun)* Uncertainty; doubt; indecisiveness.

ambulatory *(adj)* Able to walk; not stationary.

ameliorate *(verb)* Make better; improve.

amiable *(adj)* Cordial; of pleasant disposition; friendly.

amorphous *(adj)* Without structure; shapeless; nebulous.

animate *(verb)* Energize; enliven.

anomaly *(noun)* Abnormality; deviation from the general rule; irregularity.

antediluvian *(adj)* Ancient; antiquated; obsolete.

antipathy *(noun)* Feeling of opposition or repugnance; aversion; dislike.

apathy *(noun)* Lack of concern, emotion or interest; indifference.

aperture *(noun)* Gap; opening; orifice.

apocryphal *(adj)* False; unauthenticated; disputed.

apotheosis *(noun)* 1. Essence; epitome. 2. Canonization.

appease *(verb)* Satisfy; make peace; placate.

approbatory *(adj)* Expressing approval.

arable *(adj)* Suitable for cultivation or plowing.

arrogant *(adj)* Feeling superior to other people; egotistical.

ascetic *(adj)* Strict; austere.

assuage *(verb)* Ease; make less burdensome; mitigate.

atrophy *(verb)* Waste away from lack of use; degenerate.

audacity *(noun)* Boldness or adventurousness; gall.

authoritarian *(noun)* 1. Person who acts like a dictator; tyrant. 2. Disciplinarian.

avarice *(noun)* Extreme desire for wealth; greed; acquisitiveness.

aviary *(noun)* Large enclosure confining birds.

avouch *(verb)* Guarantee; take responsibility for; affirm.

avow *(verb)* Affirm; assert; declare; acknowledge.

baleful *(adj)* Sorrowful; sinister; evil.

balm *(noun)* Soothing ointment for pain or healing; salve.

banal *(adj)* Trite; insipid; ordinary.

bane *(noun)* Deadly affliction; curse; plague.

barbarity *(noun)* Cruel action; inhuman act; harsh conduct.

barren *(adj)* 1. Infertile; impotent. 2. Arid; unproductive.

befuddle *(verb)* Stupefy or confuse; misconstrue.

belated *(adj)* Tardy; overdue.

beleaguer *(verb)* Besiege; surround.

belittle *(verb)* Humiliate; tease; diminish in importance.

bemoan *(verb)* 1. Experience pain or distress. 2. Express pity for; mourn.

bemused *(adj)* Preoccupied by thought; bewildered; perplexed.

bilk *(verb)* Defraud; deceive; hoodwink.

blandishment *(noun)* Cajolery; enticement.

bliss *(noun)* Gaiety; happiness; enjoyment.

blithe *(adj)* Happy; pleased; delighted.

boisterous *(adj)* Noisy; loud; violent; rowdy.

boorish *(adj)* Ill-mannered; rude; gauche.

brevity *(noun)* Briefness; succinctness; terseness.

broach *(verb)* Introduce; bring up; mention.

browbeat *(verb)* Intimidate; harass; dominate.

bungle *(verb)* Botch; mismanage; spoil.

buttress *(noun)* Truss; foundation; support.

cacophonous *(adj)* Discordant; dissident; harsh.

callow *(adj)* Inexperienced; immature; naive.

candid *(adj)* Frank; blunt; open.

carouse *(verb)* Drink to excess; live it up.

cease *(verb)* Stop; end; halt.

celerity *(noun)* Swift motion; speed; alacrity.

censorious *(adj)* Critical; attacking; denouncing.

charlatan *(noun)* Fraud; person claiming knowledge he/she does not have; humbug; fake; hustler.

chary *(adj)* Careful; cautious.

chasten *(verb)* Castigate; punish; reprove.

cherubic *(adj)* Sweet; kind; innocent.

chimerical *(adj)* Fanciful; whimsical; playful.

chronic *(adj)* Compulsive; typical; habitual; inveterate.

churlish *(adj)* Selfish; rancorous; surly.

circuitous *(adj)* Indirect; roundabout; rambling.

clamor *(noun)* Loud noise or complaint; commotion; din.

clandestine *(adj)* Furtive; surreptitious; secret.

clemency *(noun)* Lenience; mercy; compassion.

cloister *(noun)* Convent; monastery; religious place.

coagulate *(verb)* Congeal; curdle; clot.

coalesce *(verb)* Combine; incorporate; merge.

coddle *(verb)* Pamper; overindulge; baby; spoil.

coercion *(noun)* Intimidation; duress; force; compulsion.

cognate *(adj)* Related by blood; having the same origin.

commensurate *(adj)* Equal in measure; of the same duration or size.

compile *(verb)* Collect data; accumulate; amass.

concomitant *(adj)* Concurrent; attendant; occurring with something else.

concordance *(noun)* Agreement; treaty; accord.

confluence *(noun)* Nexus; union; meeting; conflux.

confound *(verb)* Perplex; baffle; confuse.

conglomerate *(noun)* Corporation; partnership; firm.

conjugal *(adj)* Matrimonial; nuptial; marital.

constrict *(verb)* Squeeze; pinch; obstruct; block.

contentious *(adj)* Argumentative; pugnacious; quarrelsome.

contrite *(adj)* Penitent; apologetic; remorseful.

conundrum *(noun)* Mystery; puzzle.

convoke *(verb)* Convene; assemble.
copious *(adj)* Plentiful; ample; profuse.
corpulence *(noun)* Excessive fatness.
coterie *(noun)* Small group of people who share interests and meet frequently.
crass *(adj)* Vulgar, grossly ignorant; indelicate.
credulous *(adj)* Gullible; unsuspecting; naive.
cryptic *(adj)* Enigmatic; obscure; secret; puzzling.
ctenoid *(adj)* Comblike; having narrow segments.
cuboid *(adj)* Having the shape of a cube.
cucullate *(adj)* Hood-shaped.
curmudgeon *(noun)* Cantankerous person.

daub *(verb)* Blur; smear; spread.
dawdle *(verb)* Procrastinate; loiter; idle; dally.
dearth *(noun)* Paucity; shortage; deficiency.
debased *(adj)* Lowered in status or character; degenerate.
decipher *(verb)* Solve or figure out a puzzle; translate; untangle.
declivity *(noun)* Downward slope.
decorum *(noun)* Appropriate conduct; polite or proper behavior; protocol.
delectable *(adj)* Delicious; delightful; savory.
deleterious *(adj)* Destructive; poisonous; unhealthy.
delineate *(verb)* Describe; outline; depict.
delusion *(noun)* Untrue belief; hallucination; fallacy; misconception.
demagogue *(noun)* Incendiary; agitator; opportunist.
denounce *(verb)* Reprove; accuse; condemn.
depravity *(noun)* Perverted disposition; wickedness; vileness; corruption.
deprecatory *(adj)* Disapproving; belittling.
desecrate *(verb)* Contaminate; profane; defile.
desist *(verb)* Discontinue or stop; surcease; cease; renounce.
desolate *(adj)* Alone; without hope or comfort; forsaken.
despoil *(verb)* Ravage; rob; loot.
despot *(noun)* Dictator; tyrant; totalitarian.
diatribe *(noun)* Extreme, bitter, and abusive speech; vituperation; tirade.
didactic *(adj)* Pedantic; academic; for teaching.
diffidence *(noun)* Self-doubt; timidity; shyness.
dilatory *(adj)* Lackadaisical; lazy; remiss.
diligent *(adj)* Assiduous; studious; hard-working.

diminution *(noun)* Decrease; reduction.

disaffected *(adj)* Disillusioned; dissatisfied; discontented.

disapprobation *(noun)* Dislike; reservation; denunciation.

disband *(verb)* Disperse; dissipate; scatter; dispel.

discontent *(adj)* Unhappy; displeased; miserable.

discursive *(adj)* Circuitous; digressive; rambling.

dissemble *(verb)* Disguise; conceal; mask; camouflage.

dishearten *(verb)* Dismay; daunt; depress.

disinterment *(noun)* Exhumation; removal of a body from a grave.

disoblige *(verb)* Slight or offend.

disparage *(verb)* Deprecate; belittle or abuse.

dispassionate *(adj)* Imperturbable; unemotional; calm; composed.

disputatious *(adj)* Quarrelsome; contentious; argumentative.

dissension *(noun)* Conflict; disagreement; strife.

dissonant *(adj)* Cacophonous; inharmonious; discordant; strident.

dissuade *(verb)* Obstruct; hinder; deter.

distend *(verb)* Bloat; bulge; swell; stretch.

dither *(noun)* Commotion; turmoil.

divination *(noun)* Prediction; prophecy; forecast.

dolt *(noun)* Cretin; fool; dimwit; idiot.

dotard *(noun)* Senile person.

dubious *(adj)* Irresolute; uncertain; moot.

duplicity *(noun)* Cunning; fraud; trickery; deception.

edify *(verb)* Instruct; enlighten; educate.

efface *(verb)* Cancel; delete; obliterate.

effervescent *(adj)* Lively; volatile.

effigy *(noun)* Mannequin; likeness; image.

effrontery *(noun)* Impudence; nerve; gall.

egregious *(adj)* Flagrant; glaring; outrageous.

elegiac *(adj)* Mournful; sorrowful; sad.

elucidate *(verb)* Interpret; define; clarify; explain.

emanate *(verb)* Radiate; flow from; emit.

emasculate *(verb)* Deprive of strength.

embroil *(verb)* Implicate; enmesh; involve.

emcee *(noun)* Master of ceremonies.

empathize *(verb)* Identify with; understand.

emulate *(verb)* Model; pattern.

enervate *(verb)* Exhaust or weaken; debilitate.

engender *(verb)* Generate; produce; cause.

enigmatic *(adj)* Cryptic; baffling; mysterious.

enmesh *(verb)* Tangle or involve.

ennui *(noun)* Dullness; boredom; monotony.

enthrall *(verb)* Mesmerize; captivate; thrill.

entrench *(verb)* Fortify; reinforce; secure.

ephemeral *(adj)* Transitory; fleeting; passing; temporary.

epicure *(noun)* Person devoted to luxurious living; person with refined tastes.

epithet *(noun)* Word used to describe or characterize a person or thing.

equilibrium *(noun)* Balance; stability; poise.

equivocate *(verb)* Prevaricate; dodge; evade; hedge.

erudition *(noun)* Learning; knowledge; enlightenment.

escapade *(noun)* Adventurous conduct; unusual behavior.

esoteric *(adj)* Confidential; personal; private; privileged.

espouse *(verb)* Embrace; defend; support.

ethereal *(adj)* Incorporeal; intangible; airy.

eulogy *(noun)* Commendation; speech giving great tribute.

euphonic *(adj)* Pertaining or agreeable to the ear.

evanescent *(adj)* Ephemeral; fading; brief.

exigent *(adj)* Pressing; insistent; urgent.

exonerate *(verb)* Acquit; vindicate; free from responsibility.

exorcise *(verb)* Cast out evil spirits; expel demons.

expatriate *(verb)* Send into exile; renounce one's own country.

expedite *(verb)* Speed up matters; accelerate; quicken.

expunge *(verb)* Obliterate; remove; erase; exterminate.

expurgate *(verb)* Remove erroneous or objectionable material; delete; edit.

extemporaneous *(adj)* Spontaneous; impromptu.

extol *(verb)* Praise; laud; hail; glorify.

extradite *(verb)* Transfer a person to another jurisdiction for possible prosecution for an alleged defense.

extricate *(verb)* Remove; loosen; untie.

fallible *(adj)* Faulty; imperfect.

fallow *(adj)* Idle; dormant.

fastidious *(adj)* Meticulous; exacting.

fathom *(verb)* Measure; discover; perceive.

fatuous *(adj)* Ludicrous; inane; idiotic; silly.

fecund *(adj)* Prolific; productive; fruitful.

felicity *(noun)* Great happiness; bliss.

fetter *(verb)* Restrain; restrict; curb.

fetid *(adj)* Possessing an offensive smell; malodorous; foul; gamey.

fickle *(adj)* Capricious; erratic; spasmodic.

fledgling *(noun)* Young or inexperienced person; young bird.

flippant *(adj)* Nonchalant; frivolous, superficial; light.

florid *(adj)* Ornate; flushed with rosy color; ruddy.

flout *(verb)* Ridicule; scoff; mock; scorn.

foible *(noun)* Frailty; imperfection; weakness.

forswear *(verb)* Repudiate; forsake; eschew.

fulsome *(adj)* Loathsome; excessive.

fume *(noun)* Gas; vapor; harmful or irritating smoke.

furtive *(adj)* Clandestine; secretive; surreptitious; covert.

gambol *(verb)* Play; frolic; romp.

garble *(verb)* Confuse; scramble; distort.

garish *(adj)* Gaudy; ostentatious; excessive.

garner *(verb)* Collect; receive; attain; acquire.

giddy *(adj)* Scatterbrained; silly; frivolous.

glaucoma *(noun)* Eye disease resulting in partial vision loss.

goad *(verb)* Incite; pressure; irk; arouse; awaken.

grandiloquence *(noun)* Pompous or bombastic speech; lofty, swelling language.

grisly *(adj)* Frightening; ghastly; gory; hideous.

grovel *(verb)* Act in a servile way; cringe; kneel.

guile *(noun)* Wiliness; deceit; cunning.

guzzle *(verb)* Gulp; swill; consume to excess.

hackneyed *(adj)* Trite; common; overdone; banal.

haggle *(verb)* Dicker; barter; make a deal.

hallow *(verb)* Make holy; consecrate; sanctify.

hamper *(verb)* Hinder; frustrate; impede.

harbor *(verb)* Preserve; conceal; secure; shelter.

hardy *(adj)* Stalwart; robust; sturdy.

haughty *(adj)* Arrogant; disdainful; blatantly proud; contemptuous.

hearten *(verb)* Encourage; give strength.

hedge *(verb)* Enclose; surround; fence.

hedonism *(noun)* Intemperance; self-indulgence; excess.

herald *(verb)* Announce; broadcast; report.

heretic *(noun)* Nihilist; infidel; radical; dissenter.

hiatus *(noun)* Interruption; pause; gap.

hilarity *(noun)* Boisterous merriment; enjoyment.

histrionic *(adj)* Pertaining to actors; melodramatic.

hoary *(adj)* Frosted; grey; grizzled.

hyperbole *(noun)* Exaggeration; fanciful statement; enhancement.

iconoclasm *(noun)* Attack on religious values or symbols.

ignoramus *(noun)* Moron; fool; dimwit.

immutable *(adj)* Incorruptible; enduring; unchanging.

impecunious *(adj)* Poor; destitute; penniless.

imperturbable *(adj)* Even-tempered; level-headed; calm.

impervious *(adj)* Airtight; sealed; impenetrable.

impetuous *(adj)* Hasty; rash; impulsive.

impregnable *(adj)* Invincible; invulnerable; unable to capture or enter.

impromptu *(adj)* Makeshift; spontaneous.

improvident *(adj)* Reckless; rash.

impugn *(verb)* Denounce; censor; attack.

inauspicious *(adj)* Unfavorable.

inaudible *(adj)* Faint; soft; hard to hear.

incipient *(adj)* Embryonic; developing; in the beginning stages.

incisive *(adj)* Perceptive; astute.

inclusive *(adj)* All-encompassing; broad in scope; comprehensive.

incoherent *(adj)* Illogical; inconsistent.

incongruous *(adj)* Inconsistent; unsuitable; contradictory.

incorrigible *(adj)* Unruly; delinquent; incapable of reform.

indecorous *(adj)* Inappropriate; indelicate; unseemly.

indefatigable *(adj)* Diligent; persistent; inexhaustible.

indenture *(noun)* Contract binding a person to work for another.

indolence *(noun)* Lethargy; idleness; sloth.

inebriation *(noun)* Drunkenness; intoxication.

ingenuous *(adj)* Genuine; open; candid; frank.

inimical *(adj)* Antagonistic; hurtful; harmful; adverse.

innocuous *(adj)* Dull; harmless; innocent.

inscrutable *(adj)* Mysterious; perplexing.

insipid *(adj)* Dull; banal; tasteless.

insolvent *(adj)* Bankrupt; unable to pay debts.

intercede *(verb)* Intervene; negotiate.

intonate *(verb)* Speak or utter with a particular tone.

intractable *(adj)* Unruly; disobedient.

intrinsic *(adj)* Inherent; natural; innate.

inveigh *(verb)* Abuse; criticize; rebuke.

inveterate *(adj)* Habitual; chronic.

irascible *(adj)* Testy; touchy; irritable.

issue *(verb)* Discharge; emerge; emanate.

jettison *(verb)* Eliminate; discharge.

jollity *(noun)* Gaiety; merriment.

judicious *(adj)* Logical; reasonable; clever.

juncture *(noun)* Joint; seam; intersection; joining.

juxtapose *(verb)* Place side by side.

knotty *(adj)* Snarled; tangled.

labyrinth *(noun)* Maze; network; puzzle.

lachrymose *(adj)* Weepy; tearful.

laconic *(adj)* Concise; terse; curt.

lamentation *(noun)* Complaint; moan.

lampoon *(verb)* Mock; ridicule.

languish *(verb)* Decline; diminish; weaken.

largess *(noun)* Charity; philanthropy; gift.

lassitude *(noun)* Fatigue; weariness; debility.

laudable *(adj)* Commendable; admirable; exemplary.

laxity *(noun)* Carelessness; indifference.

lethargy *(noun)* Idleness; listlessness; passivity.

levity *(noun)* Lightness; frivolity.

linger *(verb)* Loiter; remain; hesitate.

lithe *(adj)* Flexible; agile; mobile; bendable.

loutish *(adj)* Clumsy; idiotic; buffoonlike.

ludicrous *(adj)* Outlandish; silly; ridiculous.

lurid *(adj)* Gruesome; horrifying; appalling.

maladroit *(adj)* Clumsy; unskilled.
malapropism *(noun)* Inappropriate or ludicrous use of a word.
malevolent *(adj)* Venomous; spiteful; malignant.
malinger *(verb)* Slacken; procrastinate.
marred *(adj)* Having blemishes; damaged; defaced.
maudlin *(adj)* Overemotional; mushy.
meander *(verb)* Twist; bend; zigzag.
mendicant *(noun)* Almsman; beggar; leech; parasite.
meticulous *(adj)* Precise; scrupulous; particular.
mettle *(noun)* Stamina; bravery; courage.
mince *(verb)* Chop; mitigate.
mire *(noun)* Mud; slime; muck.
moribund *(adj)* Failing; waning; ailing.
motley *(adj)* Multicolored; spotted; mixed.
multifarious *(adj)* Diverse; many-sided; multiple.
mundane *(adj)* Boring; ordinary; typical; tedious.
munificent *(adj)* Generous; extravagant; philanthropic.

nascent *(adj)* Beginning; embryonic; incipient.
nefarious *(adj)* Evil; vile; sinister; wicked.
neologism *(noun)* Newly coined phrase or expression.
noxious *(adj)* Nocuous; harmful; malignant.

obdurate *(adj)* Stubborn; intractable.
obsequious *(adj)* Servile; groveling.
obviate *(verb)* Make unnecessary.
odious *(adj)* Detestable; loathsome; revolting; sickening.
officious *(adj)* Meddlesome.
opacity *(noun)* Quality of being opaque; impenetrable by light.
optimum *(noun)* Peak or prime; ideal.
opulent *(adj)* Affluent; well-to-do; plentiful.
ostentatious *(adj)* Conspicuous; showy.
ostracize *(verb)* Exclude; isolate; bar; shun.

palpable *(adj)* Noticeable; obvious; apparent.
paltry *(adj)* Minor; petty; insignificant.
panegyric *(noun)* Elaborate praise; public compliment.
paragon *(noun)* Model or standard of excellence.

pariah *(noun)* Dropout; misfit; refugee.

parochial *(adj)* Religious; restricted.

parsimony *(noun)* Miserliness; unusually excessive frugality.

partisan *(noun)* Fan or supporter; enthusiast supporting a particular cause or issue.

pastiche *(noun)* Hodgepodge; literary or musical piece imitating other works.

paucity *(noun)* Need; poverty; shortage.

peccadillo *(noun)* Small sin or fault.

pedantic *(adj)* Stuffy or dogmatic; meticulous; academic.

peevish *(adj)* Irritable; grouchy; ill-tempered.

pejorative *(adj)* Degrading; derogatory; negative.

percipient *(adj)* Able to perceive or see things as they actually are.

perfidy *(noun)* Deliberate breach of faith or trust; treachery.

peripheral *(adj)* Marginal; outer; surrounding.

perspicacious *(adj)* Astute; keen; perceptive.

philistine *(noun)* Barbarian; person lacking artistic judgment.

pique *(verb)* Irritate; miff; offend.

pithy *(adj)* 1. Substantial; profound. 2. Brief; concise.

placid *(adj)* Sincere; tranquil; composed; sedate.

plaintive *(adj)* Sad; mournful; pathetic.

platitude *(noun)* 1. Triteness; 2. Cliché; trivial remark.

plaudit *(noun)* Enthusiastic expression.

pliable *(adj)* Limber; malleable; flexible.

poignant *(adj)* Intense; powerful; biting; piercing.

polemical *(adj)* Controversial; argumentative; debatable.

polyphony *(noun)* Music with two or more melodies blended together.

porous *(adj)* Permeable; absorbent; having holes.

posthumous *(adj)* Arising or continuing after someone's death.

potable *(adj)* Drinkable.

prattle *(verb)* Gab; babble.

precocious *(adj)* Showing premature development.

precursor *(noun)* Forerunner.

prescient *(adj)* Showing foresight; predicting events before they occur.

primeval *(adj)* Belonging to a primitive age.

primordial *(adj)* Belonging to a primitive age; first in time.

proclivity *(noun)* Tendency; inclination; propensity.

procrastinate *(verb)* Postpone; stall; defer.

prodigious *(adj)* Exceptional; impressive; of huge quantity; immense.

proficient *(adj)* Skillful; masterful; expert.

progeny *(noun)* Heir; descendant; offspring.

prolific *(adj)* Fruitful; abundant; fertile.

prosaic *(adj)* Common; routine; ordinary.

protean *(adj)* Taking many forms; changeable; variable.

protract *(verb)* Elongate; lengthen; prolong.

prudent *(adj)* Careful; cautious; judicious.

puerile *(adj)* Juvenile; immature; childish.

pugilism *(noun)* Boxing.

pugnacity *(noun)* Eagerness to fight.

pulchritude *(noun)* Beauty; physical appeal.

pulverize *(verb)* Grind; crush; smash.

quagmire *(noun)* Marsh; quicksand; swamp.

quandary *(noun)* Dilemma; mire; entanglement.

querulous *(adj)* Difficult; testy; disagreeable.

quibble *(verb)* Argue or bicker.

quixotic *(adj)* Romantic; whimsical; unrealistic.

rabid *(adj)* Berserk; diseased; sick.

ramble *(verb)* Meander; roam.

rancorous *(adj)* Antagonistic; hostile; spiteful.

rarefy *(verb)* Make thin; purify; make less dense.

raucous *(adj)* Harsh; annoying; piercing; shrill.

raze *(verb)* Demolish; level; topple.

reactionary *(adj)* Opposing progress; characterized by reaction.

recalcitrant *(adj)* Headstrong; disobedient; stubborn.

recant *(verb)* Rescind; retract; take back.

reconciliation *(noun)* Settlement or resolution.

redundant *(adj)* Excessive; repetitious; unnecessary.

refractory *(adj)* Unmanageable; obstinate; not responsive to treatment.

refurbish *(verb)* Overhaul; remodel.

regimen *(noun)* Administration; government; system.

remedial *(adj)* Restorative; corrective; healing.

remuneration *(noun)* Compensation; wages.

rend *(verb)* Rip; tear; splinter.

reprobate *(noun)* Degenerate; person without morals.

repudiate *(verb)* Recant; disclaim; reject; disavow.

rescind *(verb)* Cancel; repeal; veto

resilient *(adj)* Elastic; stretchy; rebounding.

resonant *(adj)* Reverberant; ringing.

resplendent *(adj)* Dazzling; glorious; intense.

restive *(adj)* Nervous; restless; uneasy.

retrospection *(noun)* Contemplation of past things.

reverent *(adj)* Devout; solemn; worshipful.

ribald *(adj)* Lewd; obscene; irreverent.

rudiment *(noun)* Beginning; foundation or source.

ruffian *(noun)* Brutal person; cruel and sadistic person.

ruminate *(verb)* Contemplate; think about.

saccharine *(adj)* Sugary; syrupy.

savant *(noun)* Intellectual; scholar; philosopher.

scanty *(adj)* Meager; scarce.

scoff *(verb)* Mock; ridicule.

sequester *(verb)* Separate; isolate; segregate.

soporific *(adj)* Hypnotic; lethargic; causing sleep.

spurious *(adj)* Bogus; false.

spurn *(verb)* Defy; reject.

squalor *(noun)* 1. Severe poverty. 2. Filthiness.

stratagem *(noun)* Plot, tactic; deception.

strident *(adj)* Discordant; harsh; piercing.

strife *(noun)* Conflict; turmoil; struggle.

stultify *(verb)* Inhibit; make ineffective; cripple.

supercilious *(adj)* Egotistic; proud; arrogant.

surfeit *(noun)* Overabundance; excess; surplus.

surly *(adj)* Choleric; rude; sullen.

surreptitious *(adj)* Covert; furtive; acquired by stealthy means.

svelte *(adj)* Graceful; slim.

sybarite *(noun)* Someone devoted to luxury; pleasure-seeker.

sycophant *(noun)* Flatterer.

taciturn *(adj)* Reserved; shy; uncommunicative.

tantamount *(adj)* Indistinguishable; equivalent.

taper *(verb)* Diminish; thin; narrow.

tawdry *(adj)* Gaudy; showy; loud.

temerity *(noun)* Rashness; audacity; recklessness.

tensile *(adj)* Pertaining to tension; stretchable; ductile.

tenuous *(adj)* Attenuated; flimsy; thin.

tirade *(noun)* Diatribe; angry speech.

torpor *(noun)* Lethargy; apathy; dormancy.

trepidation *(noun)* Anxiety; alarm; apprehension.

truant *(adj)* Indolent; absent; idle.

turgid *(adj)* Swollen; bombastic; distended.

turpitude *(noun)* Depravity; baseness; shamefulness.

undulate *(verb)* Move in a wavy manner.

unfathomable *(adj)* Baffling; puzzling; incomprehensible.

unkempt *(adj)* Uncombed; messy; untidy.

unscathed *(adj)* Unhurt; uninjured.

unwieldy *(adj)* Clumsy; awkward; unmanageable.

upbraid *(verb)* Rebuke; scold; criticize.

upshot *(noun)* Final result; conclusion; end.

vacillate *(verb)* Hedge; waver; fluctuate.

variegated *(adj)* Multicolored; polychromatic; varied.

vehement *(adj)* Fierce; emphatic; intense.

venerate *(verb)* Admire; show respect.

verbose *(adj)* Wordy; talkative; profuse.

veracity *(noun)* Truth; sincerity; honesty; candor.

verdant *(adj)* Lush; thick with vegetation; leafy.

viable *(adj)* Living; alive; feasible.

vigilance *(noun)* Attentiveness; prudence; care.

vilify *(verb)* Defame; denigrate.

virulent *(adj)* Fatal; lethal; toxic.

vitriolic *(adj)* Scathing; caustic.

vociferous *(adj)* Clamorous; outspoken; noisy; vocal.

voluble *(adj)* Verbose; wordy; garrulous.

voluminous *(adj)* Huge; immense; bulky.

voracious *(adj)* 1. Enthusiastic; overly eager. 2. Starving.

vouchsafe *(verb)* Confer; grant; permit.

wan *(adj)* Anemic; colorless; pale.

waver *(verb)* Totter; fluctuate.

whet *(verb)* Stimulate; sharpen; intensify.

wistful *(adj)* Yearning; pensive; sad.

woe *(noun)* Anguish; grief; affliction.

writhe *(verb)* Squirm; twist.

zealot *(noun)* Fanatic; radical; enthusiast.

zenith *(noun)* Apex; summit; peak.

Verbal Drills

ANTONYMS

50 Questions
Time – 40 Minutes

Directions: Each of the following items contains a word in capital letters, followed by five words or phrases. Select the word or phrase most nearly *opposite* in meaning to the capitalized word. Circle the letter before your answer.

1. QUERY:

(A) laud
(B) seek
(C) answer
(D) comply
(E) caution

2. RUPTURE:

(A) explode
(B) employ
(C) elate
(D) seal
(E) sadden

3. RIGID:

(A) strong
(B) smooth
(C) brittle
(D) flexible
(E) sickly

4. OMNISCIENT:

(A) ignorant
(B) expendable
(C) deadly
(D) rational
(E) unsatisfied

5. SUPERB:

(A) terrible
(B) unknown
(C) common
(D) expanded
(E) wasted

6. INSPIRE:

(A) intend
(B) mimic
(C) exchange
(D) outline
(E) discourage

7. DILATE:

(A) speak
(B) approve
(C) widen
(D) intend
(E) shrink

8. EFFEMINATE:

(A) clumsy
(B) absent
(C) manly
(D) ineffective
(E) unneeded

9. OVERCAST:

(A) cheerful
(B) comfortable
(C) submerged
(D) moveable
(E) transferred

10. GILDED:

(A) bled
(B) dulled
(C) freed
(D) equipped
(E) exchanged

11. UNOBSERVED:

(A) inconvenient
(B) hidden
(C) inspected
(D) frustrated
(E) cooperative

12. ITINERANT:

(A) legal
(B) defensive

(C) permanent
(D) enchanted
(E) solemn

13. RESPLENDENT:

(A) cherished
(B) abominable
(C) lackluster
(D) folding
(E) rapid

14. HARRIED:

(A) flippant
(B) salacious
(C) composed
(D) loosened
(E) irreverent

15. UNFLEDGED:

(A) experienced
(B) lambent
(C) grounded
(D) hounded
(E) appropriate

16. ABSTRUSE:

(A) obvious
(B) talkative
(C) eligible
(D) calamitous
(E) unready

17. TEPID:

(A) colorful
(B) challenging
(C) cool
(D) slippery
(E) bumpy

18. RETICENT:

(A) soothing
(B) garrulous
(C) awful
(D) coarse
(E) somnolent

19. SUPERANNUATED:

(A) sturdy
(B) credited
(C) soft
(D) young
(E) incomplete

20. SURREPTITIOUS:

(A) sullen
(B) overt
(C) unilateral
(D) fluent
(E) helpless

21. EFFETE:

(A) sincere
(B) charming
(C) telepathic
(D) solid
(E) fertile

22. PATENT:

(A) shallow
(B) requisite
(C) humble
(D) insecure
(E) hidden

23. CHURLISH:

(A) skilled
(B) logical
(C) refined
(D) able
(E) studied

24. COPIOUS:

(A) shielded
(B) evident
(C) belittled
(D) scarce
(E) unsung

25. PROPITIOUS:

(A) legible
(B) moving
(C) unfavorable
(D) blinding
(E) tenebrous

26. TENUOUS:

(A) unique
(B) firm

(C) mobile
(D) serious
(E) dark

27. CELESTIAL:

(A) lonely
(B) captive
(C) earthly
(D) unready
(E) surviving

28. ACCRUE:

(A) subtract
(B) simplify
(C) encourage
(D) submit
(E) cherish

29. CALUMNY:

(A) courage
(B) praise
(C) trustworthiness
(D) wisdom
(E) helplessness

30. PAUCITY:

(A) lassitude
(B) mirth
(C) loudness
(D) abundance
(E) rigidity

31. DISINTERESTED:

(A) felonious
(B) subjective
(C) decrepit
(D) fascinated
(E) relieved

32. SENTIENT:

(A) rebellious
(B) disharmonious
(C) callous
(D) flavorful
(E) sleepy

33. TRANSLUCENT:

(A) unmoving
(B) opaque
(C) fat
(D) circular
(E) laminated

34. JAUNTY:

(A) girlish
(B) tearful
(C) stolid
(D) lurid
(E) bumptious

35. DISPARATE:

(A) similar
(B) vigorous
(C) silent
(D) healthful
(E) clever

36. CONSONANCE:

(A) goodness
(B) life
(C) growth
(D) redemption
(E) disagreement

37. OBTUSE:

(A) mirrored
(B) sharp
(C) anthropological
(D) humanitarian
(E) soporific

38. REMEDIAL:

(A) loquacious
(B) detrimental
(C) temporary
(D) witty
(E) unhappy

39. ENTHRALLED:

(A) flimsy
(B) empty
(C) free
(D) weak
(E) inexperienced

40. RESTIVE:

(A) calm
(B) unholy

(C) impolite
(D) tolerable
(E) pallid

41. URBANE:

(A) unattached
(B) selfish
(C) accelerated
(D) domestic
(E) dull

42. TRACTABLE:

(A) slow
(B) stubborn
(C) insulting
(D) soft
(E) impolite

43. STOLID:

(A) energetic
(B) concomitant
(C) perceptive
(D) intentional
(E) criminal

44. IMPLACABLE:

(A) heavy
(B) amenable
(C) formless
(D) fragrant
(E) demotic

45. RAREFIED:

(A) high
(B) impossible
(C) thick
(D) proud
(E) general

46. LUMINOUS:

(A) ephemeral
(B) dark
(C) violent
(D) subtle
(E) exclusive

47. TEMPORAL:

(A) fluid
(B) eternal
(C) stingy
(D) minute
(E) sharp

48. INTEGRITY:

(A) ignobility
(B) success
(C) finality
(D) impediment
(E) healthfulness

49. REDUNDANT:

(A) trapped
(B) singular
(C) open
(D) despotic
(E) clear

50. VALEDICTION:

(A) epistle
(B) generosity
(C) greeting
(D) insecurity
(E) strike

ANSWER KEY

1. C
2. D
3. D
4. A
5. A
6. E
7. E
8. C
9. A
10. B
11. C
12. C
13. C
14. C
15. A
16. A
17. C
18. B
19. D
20. B
21. E
22. E
23. C
24. D
25. C
26. B
27. C
28. A
29. B
30. D
31. B
32. C
33. B
34. C
35. A
36. E
37. B
38. B
39. C
40. A
41. E
42. B
43. A
44. B
45. C
46. B
47. B
48. A
49. B
50. C

EXPLANATORY ANSWERS

1. **(C)** A *query* is a "question" and hence the opposite of an *answer*.

2. **(D)** To *rupture* is to "break or tear apart." To *seal* is to "close or make secure."

3. **(D)** What is *rigid* is "stiff and inflexible" and hence the opposite of *flexible*.

4. **(A)** To be *omniscient* is to "know all things." To be *ignorant* is to "be lacking in knowledge."

5. **(A)** Something *superb* is "of the highest degree of excellence." Something *terrible* is "of very poor quality."

6. **(E)** To *inspire* is to "strongly motivate someone to action." To *discourage* is to "attempt to dissuade someone from action."

7. **(E)** To *dilate* is to "enlarge." To *shrink* is to "make smaller."

8. **(C)** To be *effeminate* is to "have feminine qualities not appropriate to a man." To be *manly* is to "have qualities appropriate to a man."

9. **(A)** To be *overcast* is to "be gloomy," and hence the opposite of being *cheerful*.

10. **(B)** Something *gilded* is "covered, or is as if covered, with gold" and hence is the opposite of something that has been *dulled*.

11. **(C)** Something *unobserved* is "not viewed or observed." Something *inspected* is "closely viewed or observed."

12. **(C)** Something *itinerant* "travels from place to place." Something *permanent* "remains in one place."

13. **(C)** Something *resplendent* is "shining," whereas something *lackluster* is "dull."

14. **(C)** If someone is *harried*, he feels "nerve-racked," while someone who is *composed* feels "at ease."

15. **(A)** *Unfledged* means "untried," while *experienced* means "veteran."

16. **(A)** *Abstruse* is something "obscure" or "hidden," while something *obvious* is "evident."

17. **(C)** *Tepid* is "warm," whereas *cool* is "moderately cold."

18. **(B)** A *reticent* person is "quiet," while a *garrulous* person is generally "loud and talkative."

19. **(D)** *Superannuated* means "aged," while *young* means "of few years."

20. **(B)** If something is *surreptitious*, it is "concealed" or "secretive." If it is *overt*, it is "manifest" or "open to view."

21. **(E)** *Effete* means "impotent," while *fertile* means "capable of producing" or "fruitful."

22. **(E)** That which is *patent* is "obvious," while that which is *hidden* is "concealed."

23. **(C)** *Churlish* means "ill-bred" or "coarse-mannered," whereas *refined* means "cultivated."

24. **(D)** If something is *copious*, it is "abundant," while something that is *scarce* is "scanty in amount."

25. **(C)** *Propitious* means "advantageous," whereas *unfavorable* means "disadvantageous" or "not pleasing."

26. **(B)** A *tenuous* connection would be "weak," while a *firm* connection would be "strong."

27. **(C)** *Celestial* means "heavenly," whereas *earthly* means "terrestrial" or "of earth."

28. **(A)** To *accrue* is to "add." To *subtract* is to "eliminate."

29. **(B)** *Calumny* is "slander," whereas *praise* is "commendation."

30. **(D)** To have a *paucity* of something is to have a "lack" of it; to have an *abundance* of something is to have "plenty" of it.

31. **(B)** *Disinterested* means "objective" (but not "uninterested"), while *subjective* is "personal" or "opinionated."

32. **(C)** To be *sentient* is to be "sensitive," whereas to be *callous* is to be "unfeeling."

33. **(B)** That which is *translucent* is "clear." That which is *opaque* is "dark" or "not transparent."

34. **(C)** *Jaunty* means "lively," while *stolid* means "unmoving" or "impassive."

35. **(A)** To be *disparate* is to be "different," while to be *similar* is to be "the same."

36. **(E)** *Consonance* is "harmony" or "agreement," while *disagreement* is "disharmony" or "disparity."

37. **(B)** That which is *obtuse* is "blunt" or "dull"; that which is *sharp* is "acute."

38. **(B)** *Remedial* means "helpful" or "providing remedy." *Detrimental* means "harmful."

39. **(C)** If one is *enthralled*, one is "captivated" or "enchained," while if one is *free*, one is "unrestrained."

40. **(A)** To be *restive* is to be "nervous." To be *calm* is to be "complacent."

41. **(E)** *Urbane* means "polished" or "witty," while *dull* is "obtuse" or "stupid."

42. **(B)** To be *tractable* is to be "malleable" or "agreeable," whereas to be *stubborn* is to be "unmoving."

43. **(A)** Something *stolid* is "impassive" or "sluggish," as opposed to something *energetic*, or "lively."

44. **(B)** *Implacable* means "not capable of being pleased" or "unalterable," and is the opposite of *amenable*, or "easily pleased and obedient."

45. **(C)** That which is *rarefied* is "thin," whereas that which is *thick* is "substantial" or "dense."

46. **(B)** *Luminous* means "shining" or "radiant," while *dark* means "without light."

47. **(B)** That which is *temporal* is "of time" or "earthly," while that which is *eternal* is "timeless" or "forever."

48. **(A)** *Integrity* means "nobility" or "honesty." The opposite, *ignobility*, means "meanness," "baseness" or "dishonesty."

49. **(B)** That which is *redundant* is "repetitive," while that which is *singular* is "unique."

50. **(C)** A *valediction* is a "farewell." A *greeting* is a "reception" or a "welcome."

ROOTS

Many words in our English language are derived from Latin or Greek. Root words are considered the main part of a word. They combine with each other or other parts (prefixes or suffixes) to form new words.

Roots or Bases or Stems	Meaning	Example
dent	tooth	dental
rupt	break	disruption
hydro	water	hydrophobia

Below is a list of some commonly used roots.

Roots	Meaning	Example
ag, act, ig	act, do	agent
am	love	amorous
bio	life	biology
cise	cut	concise
crat	rule, strength	democratic
cred	believe	credible
cur	run	concur
duct	lead	conduct
equi	equal	equilibrium
fer	bear, carry	fertile
fin	end	finish
geo	earth	geography
gest	carry, bear	digest
hab	live	inhabit
licit	permit	elicit
man	hand	manual
multi	many	multiply
put	think	computer
sent	feel	consent
solu	loosen	solution
tempo	time	temporary
vis	see	visual

Refer to the above list or use your dictionary to complete the exercise below. Choose either (a) or (b) to finish the definition.

1. To be full of tender feeling is to be 1.________________
   a. sentimental b. absent

2. That which can be dissolved is 2.________________
   a. resolute b. soluble

3. Something that can be seen is 3.________________
   a. vendor b. visual

4. A recount of one's own life story is a (an) 4.________________
   a. autobiography b. biopsy

5. To occur again is to 5.________________
   a. recur b. recruit

The words in each line share a common root. Write the root and its meaning in the blank.

1. Sympathy, apathetic ____________________________
2. Equivocal, equate ____________________________
3. Stenographer, autograph ____________________________
4. Scripture, inscribe ____________________________
5. Induce, educate ____________________________

PREFIXES

Prefixes are groups of letters added to the beginning of a root. It is an addition at the front of the word that adds meaning to the word.

Prefix	Meaning	Example
ab, a	from	absent
com, con	with, together	converge
auto	self	automatic
semi	half	semicircle

Here is a list of some common prefixes.

Prefix	Meaning	Example
anti	against	antidote
circum	around	circumference
contra	against	contradict
de	from, down, away	detract
e, ex	out, out of, from	exit
fore	before, in front of	forehead
in, intra, intro	into	intramural
post	after	posthumous
pro	forward	profound
re, retro	back, again	rescind
se	apart	segregate
tra, trans	across	transportation
un	not	undone

Use the list above or your dictionary to complete the exercise below. Choose either (a) or (b) to finish the definition.

1. Something that can be used up is — 1. ________________
   a. expendable b. explanation
2. To choose from an assortment is to make a — 2. ________________
   a. sensation b. selection
3. To translate from secret writing or code is to — 3. ________________
   a. decipher b. dedicate
4. To lack control of is to be — 4. ________________
   a. understood b. undisciplined
5. To go around is to — 5.________________
   a. circumflex b. circumvent

The words in each line share a common prefix. Write the prefix and its meaning in the blank.

1. reconcile, revoke ________________________________
2. exhale, exile ________________________________
3. mislead, misled ________________________________
4. unisex, unity ________________________________
5. preview, preceded ________________________________

SUFFIXES

Suffixes are groups of letters added to the end of a root. It is an addition at the end of the word that adds meaning to the word.

TO FORM NOUNS:

Suffix	Meaning	Example
1. acy, cy, ance, ary	state or	accuracy, transference
2. ence, ity, ty, ness	quality of being	poverty, greatness
3. ice	act, quality	service, justice

TO FORM ADJECTIVES:

Suffix	Meaning	Example
1. able, ible	able to	agreeable
2. ful, eous, ious, ous, ose	full of	bountiful, plenteous generous, verbose

TO FORM VERBS:

1. fy	make, form into	liquify
2. en	make	hearken

TO FORM ADVERBS:

1. ly	in the manner of	angrily
2. er	more in degree	happier

Here is a list of common suffixes.

NOUNS:

ant, ent, ier, er eer, ist, or, tor sor, ee	one who	servant
ure	act, being quality	womanhood
tude	state of being	gratitude

ADJECTIVES:

al, ary, ery, ory ic, icle, ine	pertaining to	manual
il, ile	pertaining to	juvenile

VERBS

ate	make, form into	segregate
ize	make, do	emphasize

ADVERBS:

est	most - in degree	fastest
most	highest - in degree	utmost

Practice forming nouns by adding the correct suffix to each word. You may need to slightly change the spelling in some words before you add the ending.

1. revise ____________________
2. account ____________________
3. close ____________________
4. multiply ____________________
5. cash ____________________

Use the proper suffix to change each word to a verb.

1. to make something sterile ____________________
2. to use a hyphen ____________________

Add the proper suffix to change each word into an adjective

1. hate: a _______ look
2. honor: an _______ degree
3. nature: a _______ setting

ANSWER KEY FOR VERBAL

Roots	Prefixes	Suffixes
1. a	1. a	1. wisdom
2. b	2. b	2. accountant
3. b	3. a	3. closure
4. a	4. b	4. multitude
5. a	5. b	5. cashier
1. path-feeling	1. re-back, again	1. sterilize
2. equi-lead	2. ex-out, out of	2. hyphenate
3. graph-write	3. mis-incorrect	
4. scrip-scribe	4. uni-one	1. hateful
5. duc-lead	5. pre-before	2. honorary
		3. natural

Spelling

to use in preparation for

- LPN Entrance Exam (PSB)
- College (English) Placement

Spelling skills, like vocabulary, are not acquired over night, yet some students will come to you asking for a 'quick fix.' The best way to address this request is to supply the student a list of words commonly confused or misspelled, being certain to provide no assurances that the words previewed will be those on the test. (This is especially true of the PSB test which mostly contains words associated with the medical profession.)

Other students will prefer a set of rules to learn, not understanding that spelling skills, for the most part, are acquired through reading and writing and not through the memorization of a host of rules. Even so, these students will require something immediate to wrestle.

Included in this study guide is a list of commonly misspelled words and a selection of spelling rules (taken from Steck-Vaughn's *Gateways to Correct Spelling*). Provide your student these resources but instruct them to begin a daily scrutiny of words that they meet everyday in print. Ask them to recognize and write down words they could not spell on demand. These words, then, will become their spelling lists.

Selective Bibiography

Gateways to Correct Spelling
Austin: Steck-Vaughn Co.

A Mnemonics Spelling Approach
Cincinnati: South-Western Publishing Co.

Words Commonly Confused or Misspelled

absence
accelerate
accept-except
accessible
accidentally
accumulate
achievement
acquaintance
acquire
adenoid
adolescence
advice-advise
affect-effect
aisle-isle
all ready-already
alley-ally
allege
allusion-illusion
altar-alter
amateur
analysis
analyze
angel-angle
annually
apparatus
applicable
appreciate
applicable
appreciate
arctic
artery
ascent-assent
athletics
attendance
auxiliary
bachelor
bare-bare
baring-bearing
basically
beggar
believe
benefited
berth-birth
biscuit
bough-bow
breath-breathe
bridal-bridle

classify
coarse-course
committee
competent
complemented-complimented
concede
conceivable
concrete
condemn
conferred
conscience-conscious
conscientious
contagious
continuously
coolly
criticize
crystallized
curriculum
cylinder
deceive
decent-descent-dissent
defendant
deficiency
dependable
dependent
descendant
desert-dessert
desirable
develop
device-devise
die, dying-dye, dyeing
digestible
disastrous
discipline
dissatisfaction
dysentery
dyspeptic
efficient
efficient
elicit-illicit
eligible
eliminate
embarrass
erroneous
forcible
formally-formerly
germicide

hoping
human-humane
humorous
hygiene
indispensable
inference
irrelevant
irresistible
irritable

its-it's
judgement
knowledge
later-latter
liquify
loneliness
lose-loose
marital-martial
medieval
microbe
mischievous
misspelled
nasal
neither
nervous
neurotic
niece
noticeable

obstacle
occasion
occurred
occurrence
oxygen
pallor
pamphlet
parallel
paralysis
paralyze
passed-past
perceive
permissible
personal-personnel
persuade
physically

prophecy-prophesy
radiation
rarely
recede
receipt
reference
referred
referring
reliable
resemblance
resistance
restaurant
rhythm
roping
schedule
seize
separate
serum
severely
shepherd
shriek
significance
sizable
statue-statute
strenuous
sufficient
superintendent
supersede
symmetry
sympathize
symptom
tendency
than-then
their-there-they're
typical
tyrannical
truly
unanimous
unnecessary
vacuum
valuable
vengeance
villain
vitamin
warring
Wednesday
weird

PRETEST

A. In each sentence, find the misspelled words. Write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

____________________ 1. Always keep first aid supplies where they are easily acessable.

____________________ 2. Mike's teacher said that his school atendence record for this year is poor.

____________________ 3. They adopted a cat for their daughter beccause they thought the responsibility would be good for her.

____________________ 4. Belinda's favorite flavor of ice cream is choclate.

____________________ 5. Ms. Ruiz makes homemade Christmas decerations.

____________________ 6. Do you dissagree with the candidate's statement?

____________________ 7. Have you foregoten Uncle Kyle's birthday?

____________________ 8. Alicia is jelus of her sister's good grades.

____________________ 9. The thunderstorm began at midnight.

____________________ 10. Is this an orijinal work of art?

____________________ 11. It takes great persevereance to learn a new language.

____________________ 12. The silk dress is beautiful, but not practicle.

____________________ 13. A large cuantity of barbecue was served at the picnic.

____________________ 14. His children are eight and ten years of age, respektivly.

____________________ 15. The first step in the recipe was to seperate two eggs.

____________________ 16. The doctor says his loss of memory is temperary.

____________________ 17. The tuition charged by state universities is usually quite reasonable.

____________________ 18. Wuld you help me?

____________________ 19. Drive strait ahead for one mile, and then turn left.

____________________ 20. Mario always makes a good first impresion.

Each correct answer is worth 1 point. Total score: 20 points

B. In each sentence, cross out the incorrect word in parentheses. Then write the correct word in the blank.

1. Adam often asks his friends to (advise, advize) him. ____________________
2. The president of the company will (autherise, authorize) her to bargain with the labor union. ____________________
3. I (can't, cant) go to the party tomorrow. ____________________
4. The seminar improved Jennifer's (communication, comunication) skills. ____________________
5. Is 20 evenly (divisable, divisible) by 4? ____________________
6. His friends often try to (embarras, embarrass) him. ____________________
7. Janet will serve (eclairs, ecleres) at the party. ____________________
8. What time is the (facilty, faculty) meeting tomorrow? ____________________
9. The attorney's (examination, examanation) of the witness brought many new facts to light. ____________________
10. Most Americans share many (fundimental, fundamental) beliefs. ____________________
11. Did you hear about the (horrible, horable) train wreck? ____________________
12. Do you know which words are most often (mispeled, misspelled)? ____________________
13. The photographer went out in the storm to try to get pictures of the (lightening, lightning). ____________________
14. Mei read a (pamphlet, pamplet) on aging. ____________________
15. Is it company (policy, pollicy) to provide maternity leave? ____________________
16. The judge will (pronounce, pernounce) sentence on the convicted men tomorrow. ____________________
17. Do you (recal, recall) who gave us this punch bowl? ____________________
18. She made a complete (recovery, recovry). ____________________

Each correct answer is worth 1 point.	Total score: 18 points

C. Each sentence contains one or more spelling errors. Cross out each misspelled word, then write the word correctly above it.

1. I don't know wether the situation would warent legal action.
2. This year Earth Day will coinside with our city's bienial clean-up day.
3. There has been some confuzion over the company's new pollicy on work hours.
4. Does this company have an oficial pollicy against discrimination?
5. The preperation of Indian food requires great pacience.
6. The mayor was ignerint of the agency's corruption.
7. When we all yelled "suprise," Heather shreiked.
8. He claims to be a desendent of George Washington.
9. Can you devize a plan to raise funds for the new jymnasium?
10. Religus freedom is one of the privliges we enjoy in this country.
11. That song has a very unusial rithm.
12. Vilence is never a good solution to a problem.
13. One of the main aceivments of this adminestracion is the reduction of taxes for those in the middle and lower income brackets.
14. Do you like suger in your coffee?
15. The new chiarperson plans to standerdise membership requirements across the nation within the month.
16. David has always been good at fixing machinary.
17. Mebbe the workers will be able to lay the asfalt on the new road this Sunday, so that the traffic flow won't be disturbed during the work week.
18. Preperations for the bufet took two days.
19. The feiry blaze moved straight tward the houses.
20. The existance of rare plant species in that area makes it a prime candidate for federal protection.

Each correct answer is worth 1 point.	Total score: 20 points

D. The following letter contains many spelling errors. Cross out each misspelled word. Then write the word correctly above the misspelled word.

Dear Sirs,

I've discovered that some of your products contain larger quanttities of a hazardous chemical than is alowable. As the cherperson of Consumors for the Environment, I'm especialy concerned about the effect large ammounts of this chemical will have on the environment.

Our contry's citizens must use their influance as consummers to stop pollution before ireperable harm is done. Many customors now use their nolege of environmental concerns to choose products.

I am asking for your co-operacion in changing your products to eliminate hazardous chemicals. I apreciate innything you can do towarrd making your products safer.

Sincerely yers,

Each correct answer is worth 1 point. Total score: 17 points

E. In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. sachel	ignorant	decoration	______
2. advise	bachaler	misspell	______
3. policy	fiery	viel	______
4. nevertheless	sissors	grammar	______
5. carying	horrible	coincide	______
6. interprise	knowledge	would	______
7. warrant	rhythm	hieght	______
8. yours	desendant	faculty	______
9. anything	impression	drownned	______
10. leger	practical	violence	______

Each correct answer is worth 1 point. Total score: 10 points

LESSON 80

Spelling by Rules

Few rules are really helpful in learning to spell. It is well to know that the letter *q* is always followed by *u* in a word and to realize that proper nouns and adjectives should begin with capital letters. In this text, certain rules are listed which govern the use of periods, hyphens, and apostrophes. Despite the value of these and a few other general rules, most students will do better in the long run to learn each word separately. For this reason, the main emphasis of Part 2 will continue to be placed upon words rather than upon rules.

Many spelling rules have to do with the formation of derivatives. A derivative is a word formed from another by adding a prefix or a suffix or by internal change. Thus, from the word *use* are formed such derivatives as *misuse, disuse, uses, used, usage, using, user, usable* and *useless*. The following rules apply to the spelling of certain derivatives:

1. **Words ending in silent *e* drop the final *e* before the addition of suffixes beginning with a vowel.**
   EXAMPLES: come, coming; use, usable; please, pleasure.
2. **Words ending in silent *e* keep the final *e* before the addition of suffixes beginning with a consonant.**
   EXAMPLES: care, careful; tire, tireless; like, likeness.

Some important exceptions to these rules are listed below. Study them carefully. They show how dangerous it is to rely upon spelling rules.

advantage, advantageous
canoe, canoeing
dye, dyeing
mile, mileage
notice, noticeable
outrage, outrageous
argue, argument
awe, awful
judge, judgment
true, truly
whole, wholly
wise, wisdom

Another spelling rule that is frequently quoted is: Put *i* before *e* except after *c*, or where sounded like *a* in *neighbor* and *weigh*.

Be sure to learn the following exceptions to this rule.

ancient
forfeit
height
species
leisure
neither
seize
weird
foreign
counterfeit
science
either

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears above. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

mil __ __ ge
anc __ __ nt
forf __ __ t
tr __ __ y
h __ __ g __ t
l __ __ sur __
sp __ c __ __ s
whol __ __
n __ __ ther
jud __ m __ nt
s __ __ ze
sc __ __ nce
w __ __ rd
for __ __ __ n
c __ __ nterf __ __ t
__ __ ther

EXERCISE I

orm derivatives of the words below as directed. Check the spelling of the derivatives in he dictionary.

1. Add a prefix to *advantage* to form a new word. ____________

2. Add a suffix to *advantage* to form a new word. ____________

3. Add a prefix and a suffix to *notice* to form a new word. ____________

4. Add a suffix to *outrage* to form a new word. ____________

5. Add two different suffixes to *argue* to form two new words.

____________ ____________

6. Add two different suffixes to *judge* to form two new words.

____________ ____________

7. Add two different suffixes to *awe* to form two new words.

____________ ____________

8. Add four different suffixes to *use* to form four different words.

____________ ____________ ____________ ____________

9. Add two different suffixes to *care* to form two new words.

____________ ____________

10. Add two different suffixes to *whole* to form two new words.

____________ ____________

EXERCISE II

Supply *ei* or *ie* in each word. Do not refer to the visual drill.

1. w __ __ rd
2. h __ __ ght
3. anc __ __ nt
4. n __ __ ther
5. for __ __ gn
6. spec __ __ s
7. counterf __ __ t

Some Troublesome *ei* and *ie* Words

Although they conform to the spelling rule quoted in Lesson 80, the words listed below cause many spelling errors. Consult your dictionary for the correct pronunciation.

TROUBLESOME *ei* WORDS

ceiling	The ceil′ ing of the room was high.
conceit	Mary's con ceit′ over her wealth was unfortunate.
conceived	Jane con ceived′ many new ideas.
deceit	A liar prefers de ceit′ to truth.
heir	There is no heir to the estate.
perceive	I did not per ceive′ his change in attitude.
receipts	The cash re ceipts′ exceeded our expectations.
received	The crowd re ceived′ him well.
rein	Her pull on the rein turned the horse.
veil	The face was covered by a new veil.
vein	A vein carries blood toward the heart.
weighed	The man weighed about three hundred pounds.

TROUBLESOME *ie* WORDS

achieve	Many people do not a chieve′ their aims.
apiece	They got three apples a piece′.
diet	The doctor prescribed a limited di′ et.
fiend	Only a fiend could commit such a crime.
fierce	The fierce snarls of the wolves scared him.
grievance	His griev′ ance was caused by an unjust accusation.
pier	The stone pier jutted into the lake.
priest	The Catholic priest chanted the prayer in Spanish.
shriek	The child uttered a shriek of happy surprise.
twentieth	We live in the twen′ ti eth century.
wield	Some kings wield little power.
fortieth	Tuesday was his for′ ti eth birthday.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

c __ __ ling
ach __ __ ve
ap __ __ ce
con __ __ __ ved
conc __ __ t

d __ __ t
dec __ __ t
h __ __ r
f __ __ nd
f __ __ rce

perc __ __ ve
gr __ __ v __ nce
p __ __ r
rec __ __ p __ s
rec __ __ ved

pr __ __ st
shr __ __ k
r __ __ n
v __ __ l
tw __ nt __ __ th

w __ __ ld
v __ __ n
w __ __ g __ ed
f __ __ t __ __ th

☐ EXERCISE I

In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. ceiling	conciet	conceived	______
2. pier	priest	percieve	______
3. acheive	apiece	deceit	______
4. fortieth	twenteith	weighed	______
5. receipts	rein	recieved	______
6. heir	feind	fierce	______
7. diet	shreik	grievance	______
8. rein	veil	ceiling	______

☐ EXERCISE II

Arrange the following group of words in correct alphabetical order. Check the spelling of each word as you write it.

perceive
ceiling
received
conceit
grievance
achieve
fortieth
conceived
veil
fiend
wield
fierce
receipts
weighed
shriek

1. ______

2. ______

3. ______

4. ______

5. ______

6. ______

7. ______

8. ______

9. ______

10. ______

11. ______

12. ______

13. ______

14. ______

15. ______

LESSON 82

Forming Plurals

Although most plurals are formed according to established rules, there are enough exceptions to make it unsafe to depend entirely on rules. Each plural is a separate problem. The plurals of most English nouns are formed according to three rules:

A. **Add *s* to the singular form. EXAMPLES:** 1. birth, births 2. burglar, burglars 3. page, pages

B. **Add *es* to the singular when it ends with *s* or a similar sound, such as *ss, ch, x, sh.* EXAMPLES:** 1. mass, masses 2. box, boxes 3. dispatch, dispatches

C. **Change the *y* to *ies* when the singular ends in a consonant and *y*. EXAMPLES:** 1. ally, allies 2. boundary, boundaries 3. baby, babies

Study the spelling of the various plurals given below. They are frequently misspelled because they do not follow the rules above. The singular form is listed first and is followed by the plural form in an illustrative sentence.

attorney	There were more *attorneys* than legal business.
bacterium	All soil contains *bacteria.*
basis	Religion is founded on many *bases.*
cargo	The ships carried *cargoes* of wheat and clothes.
corps	Several *corps* of workers sold the new product.
criterion	There were three evaluation *criteria* listed.
datum	The writer gathered *data* for her article.
hero	Three people that I know are *heroes.*
Kelly	There were three *Kellys* in the class.
loaf	Each family was given two *loaves* of bread.
mosquito	Some *mosquitoes* carry disease.
phenomenon	All the *phenomena* of nature were described.
stimulus	Our ears are sensitive to sound *stimuli.*
thief	The bank was robbed by three *thieves.*
turkey	The farmers sold their *turkeys.*
valley	The river *valleys* were covered with water.
veto	The three bills received early *vetoes.*

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word (in plural form) with the missing letters in place. Then check yourself by looking at the word as it appears above. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

attorn ___ ___ ___

ba ___ ter ___ ___

bas ___ ___

cargo ___ ___

cr ___ t ___ r ___ ___

cor ___ ___

dat ___

her ___ ___ ___

Kell ___ ___

lo ___ ___ es

mosq ___ ___ t ___ ___ ___

___ henome ___ ___

stimu ___ ___

th ___ ___ ___ es

t ___ rk ___ ___ ___

va ___ l ___ ___ ___

vet ___ ___ ___

☐ EXERCISE

In each blank, write the plural form of the word. You may use a dictionary.

1. tally ____________________

2. fly ____________________

3. desire ____________________

4. loaf ____________________

5. datum ____________________

6. cargo ____________________

7. neighbor ____________________

8. stimulus ____________________

9. attorney ____________________

10. pony ____________________

11. stitch ____________________

12. child ____________________

13. hero ____________________

14. pass ____________________

15. solo ____________________

16. face ____________________

17. man ____________________

18. mass ____________________

19. party ____________________

20. debt ____________________

21. receipt ____________________

22. baby ____________________

23. business ____________________

24. valley ____________________

25. secretary ____________________

26. duty ____________________

27. piece ____________________

28. goose ____________________

29. ally ____________________

30. tax ____________________

31. mouse ____________________

32. typist ____________________

33. act ____________________

34. house ____________________

35. ax ____________________

36. lady ____________________

37. cotton ____________________

38. economy ____________________

39. apparatus ____________________

40. moose ____________________

41. clothes ____________________

42. consortium ____________________

LESSON 85

Prefixes and Suffixes

A prefix is a word element placed before a word stem to change the stem's meaning, such as *un* in *unkind*. A suffix is a word element placed after a word stem to change its meaning, such as *ly* in *kindly*. A knowledge of the more common prefixes and suffixes (see lists below) is very helpful in learning word meanings. Some prefixes and suffixes, such as *auto, anti, trans,* and *ful*, are always spelled the same way. Many others have more than one spelling, such as *ible* and *able; ous, ious*, and *tious*; etc. Words with these prefixes and suffixes present special spelling problems, and should be studied independently (see lessons to follow).

COMMONLY USED PREFIXES

ad, a, ac, af, al, ap, at—to, toward
ante—before
anti—against
con, co, col, com—together, with
de—down, from, away from
dis, di, dif—apart, opposite
ex, e, ec, ef—out of, from, away
in, il, im, ir—in, into, not
inter—between, among
ob, o, oc, of, op—in the way, against
per—through, by means of
post—after, behind
pre—before
pro—before, for, forth, forward
re—back, again
sub, suc, suf, sug, sum, sup—under
trans—across
uni—one

COMMONLY USED SUFFIXES

able, ible, ble—that may or can be
al, ial—relating to, pertaining to
an, ain—pertaining to
ance, ancy, ence, ency—act of, state of being
ant, ent—being
ate, fy, ize, yze—to do or make
d, ed (past tense, past participle)—did
dom—power, office, state
ee—one to whom
er, or, eer, ier—one who, that which
ful—full of
ing (present participle)—continuing to
ion, sion, tion—act of, state of being
ity, ty, ment—condition, state of being
ness—state of being
ory, ery—place where
ous, ious, tious—full of, having the quality of

☐ EXERCISE I

Match each suffix in Column A with its meaning in Column B. Place the letter of the meaning in the blank in front of the suffix it defines.

COLUMN A	COLUMN B
1. ______ ory	a. act of, state of being
2. ______ ial	b. place where
3. ______ ize	c. relating to, pertaining to
4. ______ ance	d. to do or to make

☐ EXERCISE II

Match each prefix in Column A with its meaning in Column B. Place the letter of the meaning in the blank in front of the prefix it defines.

COLUMN A	COLUMN B
1. ______ ad	a. under
2. ______ trans	b. through, by means of
3. ______ inter	c. to, toward
4. ______ sub	d. together, with
5. ______ post	e. between, among
6. ______ per	f. before, for, forward, forth
7. ______ con	g. one
8. ______ uni	h. across
9. ______ pro	i. after, behind

☐ EXERCISE III

A word root and its meaning are listed in each section below. Use your knowledge of prefixes to write the meaning of each word.

A. *-cede* and *-ceed* mean to go

1. exceed ______________________
2. proceed ______________________
3. intercede ______________________
4. recede ______________________

B. *-mit* means to send

1. permit ______________________
2. transmit ______________________
3. admit ______________________
4. remit ______________________

C. *-port* means to carry

1. import ______________________
2. deport ______________________
3. export ______________________
4. transport ______________________

D. *-scribe* means to write

1. transcribe ______________________
2. subscribe ______________________
3. inscribe ______________________
4. prescribe ______________________

LESSON 86

Words That End in *able*

Try to recall each of the following words as a part of the group of words beginning with *able*. If you are uncertain of the meaning or pronunciation of any of these words, refer to your dictionary.

acceptable	Calvin's poor excuse was not accept′ a ble.
admirable	The conduct of the large crowd was ad′ mi ra ble.
allowable	In this country such actions are not al low′ a ble.
applicable	The rules were not ap′ pli ca ble.
capable	It will take a ca′ pa ble person to fill the position.
chargeable	The purchase was charge′ a ble to her account.
charitable	Always be char′ i ta ble to the poor and needy.
considerable	It took con sid′ er a ble argument to convince her.
desirable	For everyone to be alike is not de sir′ a ble.
disagreeable	His sore throat became more dis′ a gree′ a ble.
durable	This heavy material is very du′ ra ble.
excusable	Because of illness, her absence is ex cus′ a ble.
favorable	The decision was fa′ vor a ble to launch the rocket.
honorable	An hon′ or a ble discharge was given to the officer.
miserable	The slaves were mis′ er a ble.
movable	Because of snow the trains were not mov′ a ble.
notable	The soldiers' return was without doubt a no′ ta ble event.
peaceable	They are not peace′ a ble.
probable	It is prob′ a ble that they will go.
reasonable	The price of the car is not rea′ son a ble.
reliable	The lawyer is re li′ a ble.
separable	Cream and milk are easily sep′ a ra ble.
useable	Even a demolished automobile is use′ a ble.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears above. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

ac __ __ pt __ b __ e

con __ id __ r __ ble

ap __ l __ c __ b __ __

dis __ gre __ __ ble

ex __ us __ b __ __

rel __ __ b __ __

allo __ __ b __ __

char __ t __ ble

sep __ r __ ble

dur __ __ le

not __ __ le

us __ __ ble

fav __ r __ __ le

__ on __ r __ ble

p __ __ c __ able

mi __ er __ ble

mov __ b __ __

admi __ __ ble

desi __ __ ble

prob __ __ __ __

re __ s __ n __ ble

cap __ b __ __

charg __ __ ble

☐ EXERCISE

Write one of the following words in each blank. Study each sentence carefully.

acceptable
admirable
applicable
capable
charitable
considerable
desirable
disagreeable
excusable
favorable
honorable
miserable
probable
reasonable
reliable

1. The developer plans to build new luxury homes in the most __________________ area of town.
2. It is __________________ that the event will occur just as it was originally planned.
3. Martin found that his behavior was so __________________ that he was not invited to the next meeting of the group.
4. __________________ actions on the part of the officer earned her the respect of the entire battalion.
5. The senator had a reputation as an __________________ man.
6. Were you __________________ of fulfilling all the qualifications for summer employment at the plant?
7. No more __________________ circumstances can be imagined than the abject poverty of the slaves.
8. Mrs. Teng was the most __________________ person in the office.
9. The club found that the book was an __________________ one and decided to have it reviewed at their next meeting.
10. If the demands of the partisan group are __________________ ones, the governor will consider them.
11. Many of the theories you learned in the past are not always __________________ to the situations you will meet in the future.
12. Do you think that the business climate is __________________ for the expansion of your industry?
13. The drive for funds will be managed by several __________________ organizations.
14. Her rude behavior was not __________________.
15. Mr. Jordan found that the money had accrued __________________ interest since it had been originally deposited.

LESSON 87

Words That End in *ible*

As you look at and pronounce the words in this lesson that end in *ible*, place special stress on the letter *i*. Try to recall each word as part of the group of words ending with *ible*. Refer to your dictionary for the pronunciation and meaning of any words of which you are uncertain.

accessible	The mountain stream was not ac ces′ si ble.
admissible	The judge ruled the evidence ad mis′ si ble.
audible	The feeble words were barely au′ di ble.
collectible	The bills were col lect′ i ble.
contemptible	Physical aggression against the weak is con tempt′ i ble.
convertible	The car had a con vert′ i ble top.
corruptible	His morals were cor rupt′ i ble.
defensible	Your theory of the explosion is not defen′ si ble.
destructible	The baby's new toy was easily de struct′ i ble.
dirigible	Another name for an airship is a dir′ i gi ble.
divisible	The number is di vis′ i ble by three.
eligible	Only adults are el′ i gi ble for the contest.
feasible	Which plan is the most fea′ si ble?
flexible	The flex′ i ble tube was bent into a loop.
incredible	Will's strange story seems in cred′ i ble.
indelible	The writing was in in del′ i ble ink.
insensible	The blow knocked the boy in sen′ si ble.
invisible	The jet fighter plane soon became in vis′ i ble.
legible	Good handwriting is always leg′ i ble.
permissible	Parking your car at an angle is not per mis′ si ble there.
plausible	We believed his plau′ si ble story.
responsible	Who was re spon′ si ble for the accident?
reversible	Maria purchased a re vers′ i ble overcoat.
susceptible	In winter, Jane is particularly sus cep′ ti ble to colds.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears above. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

a __ c __ s __ __ ble
cor __ __ p __ __ ble
pl __ __ s __ __ __ __
su __ __ ep __ __ ble
con __ em __ t __ ble
conv __ rt __ b __ __

incr __ d __ ble
defen __ __ ble
insen __ __ ble
le __ __ ble
invi __ __ ble
el __ g __ ble

f __ __ s __ ble
fle __ ib __ __
__ olle __ __ __ ble
dir __ g __ __ le
div __ __ i __ le
rever __ __ ble

admis __ __ ble
p __ rmis __ __ ble
a __ d __ b __ __
respon __ __ ble
indel __ __ __ __
d __ struc __ __ ble

☐ EXERCISE

In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. favorable	feasable	flexible	________
2. enable	excusable	eligable	________
3. capable	collectible	chargable	________
4. permisable	plausible	probable	________
5. acceptable	accessable	audible	________
6. reliable	reasonable	responsable	________
7. incredible	indelible	invisible	________
8. admirable	admissable	applicable	________
9. contemptable	corruptible	charitable	________
10. salable	separable	susceptable	________
11. destructible	defensable	durable	________
12. dirigible	divisable	disagreeable	________
13. miserable	indelable	notable	________
14. peaceable	legible	insensable	________
15. reversible	honorable	convertable	________
16. reversable	responsible	indelible	________
17. collectable	audible	plausible	________
18. corruptible	insensible	invisable	________
19. destructible	flexible	incredible	________
20. plausable	reasonable	admissible	________
21. dirigible	audable	durable	________
22. susceptible	honorable	indelable	________

LESSON 88

Some Troublesome Prefixes

Prefixes give much less spelling trouble than do suffixes. Such prefixes as *bene* (well), *co* (together), *dis* (away), *ex* (out of), *il* (not), *in* (not), *ir* (not), *mis* (wrong), and *un* (not) give very little spelling difficulty. Some words beginning with prefixes which are difficult to spell are the following:

arouse	They could not a rouse′ the sleeper.
beneficial	The medicine was ben′ e fi′ cial.
coincide	The two news stories did not co′ in cide′.
disagree	The speakers dis′ a gree′ on the subject.
discovery	The dis cov′ er y of gold was kept secret.
excel	Arturo tried to ex cel′ in all sports.
exile	The prisoners were sent into ex′ ile.
exhibit	Three pictures were placed on ex hib′ it.
expected	Tom is ex pect′ ed to arrive early today.
illiterate	What percentage of the population is il lit′ er ate?
illustrate	Photos were used to il′ lus trate the story.
inability	Her in′ a bil′ i ty to read is unfortunate.
inauguration	There was a delay in the governor's in au′ gu ra′ tion.
irrigation	Much water was distributed by ir′ ri ga′ tion.
irreparable	Fire caused ir rep′ a ra ble damages.
misfortune	His car accident was a great mis for′ tune.
mislay	Where did you mis lay′ your glasses?
mispronounce	Did you mis′ pro nounce′ many words?
mistaken	It was a case of mis tak′ en identity.
unnecessary	There is no un nec′ es sar′ y waste.
unusual	Your conduct is un u′ su al.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Check your efforts by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

exp _ _ _ ed

ben _ fi _ _ al

co _ n _ id _

i _ _ _ gation

d _ sc _ v _ ry

unu _ _ _ l

aro _ _ _

e _ _ ib _ t

m _ _ la _

il _ it _ rate

il _ _ strate

in _ bil _ ty

in _ _ g _ ration

ir _ ep _ r _ ble

un _ e _ es _ _ ry

m _ sfort _ _ _

m _ _ pron _ _ n _ _

dis _ gree

ex _ el

mi _ t _ ken

e _ il _

☐ EXERCISE

In each sentence, cross out each incorrect word in parentheses. Then write the correct word in the blank.

1. Jim was quite upset over his (enability—inability) to deliver the speech accurately.

   ____

2. The teacher said that you should try not to (mispronounce—mispHrononce) the words in the lesson. ____________________
3. Brenda was trying to (excell—excel) as a real estate agent. ____________________
4. Proper (irigation—irrigation) of the rice fields will bring a larger crop yield.

   ____

5. Roberta felt that additional research would be (unecessary—unnecessary).

   ____

6. Harsh words will (arrouse—arouse) the ire of even the most docile person.

   ____

7. Such an action will cause (irreparable—irrepairable) damage to the community at large. ____________________
8. Mrs. Wilson was distressed at the number of (iliterate—illiterate) children throughout the state. ____________________
9. Without hesitating, the jury condemned the man to (exille—exile) from the country.

   ____

10. The Native Americans thought that the waters from the spring were (benneficial—beneficial) to their health. ____________________
11. The largest crowd that had ever gathered in the capital was at the (inauguration—innauguration) of the governor. ____________________
12. When (misfortune—missfortune) strikes, it seems to strike with grave results.

    ____

13. That couple tried to collect only the most (unnusual—unusual) lanterns and lamps for their shop. ____________________
14. The museum has an outstanding (exibit—exhibit) of precious metals this month.

    ____

LESSON 89

Words Ending in *el*, *le*, and *al*

There are a number of words ending in *el*, *le*, and *al* which are pronounced with a similar *l* sound. There are no rules which govern the spelling of these endings. Distinct pronunciation is helpful, but for the most part *l*-sounding endings must be visualized carefully. Note the endings of the following words:

acquittal	The jury voted for the prisoner's ac quit′ tal.
refusal	A quick re fus′ al was given to our offer.
angel	Our dessert was an′ gel food cake.
barrel	The bar′ rel was full of flour.
label	The la′ bel came off the bottle.
novel	This is an interesting nov′ el.
parcel	A par′ cel came in today's mail.
quarrel	They engaged in a bitter quar′ rel.
satchel	Doctor Brown left her satch′ el in her office.
tunnel	The train ran through a tun′ nel.
vessel	The ves′ sel carried cargo.
angle	The an′ gle was more than 45 degrees.
axle	The rear ax′ le of the car was broken.
humble	The man's manner was hum′ ble.
liable	Everyone is li′ a ble for personal debts.
meddle	Why med′ dle in other people's affairs?
resemble	Twins often re sem′ ble each other.
struggle	The strug′ gle for existence is unending.
thimble	The needle was easily pushed with a thim′ ble.
tremble	The child began to trem′ ble with fear.
trifle	The guests were a tri′ fle late.
whistle	The train's whis′ tle was long and loud.
wrestle	The boys started to wres′ tle each other.

VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

ac ___ ___ itt ___ l
ref ___ s ___ l
ang ___ l
bar ___ ___ l
lab ___ l

n ___ v ___ l
par ___ ___ l
qu ___ ___ rel
s ___ ___ chel
t ___ nn ___ l

ves ___ ___ l
angl ___
ax ___ ___
___ umble
l ___ abl ___

med ___ le
r ___ sembl ___
strug ___ l ___
th ___ mbl ___
trem ___ ___ e

t ___ ifl ___
w ___ istl ___
wr ___ stle

☐ EXERCISE I

Supply *el*, *le*, or *al* in the following words. In the blank following each word, rewrite the complete word.

1. ax ________ ______________
2. trif ________ ______________
3. nov ________ ______________
4. medd ________ ______________
5. wrest ________ ______________
6. acquitt ________ ______________
7. parc ________ ______________
8. resemb ________ ______________
9. strugg ________ ______________
10. whist ________ ______________
11. quarr ________ ______________
12. tremb ________ ______________
13. lab ________ ______________
14. humb ________ ______________
15. tunn ________ ______________
16. liab ________ ______________

☐ EXERCISE II

In each sentence, find any misspelled words. Write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

______________ 1. Are they liabel for the debts that their children have incurred during the last six months?

______________ 2. I do not think that the jury will bring in a verdict for acquittal in this case.

______________ 3. The wind caused the cracks to whistel and the timbers to tremble.

______________ 4. Do you think that the quarrel between the two political parties will lead to a struggel in the election?

______________ 5. The cargo vessal steamed into port just as the train reached the final tunnel.

______________ 6. Don't meddel in the case, for only a trifle is concerned.

______________ 7. The angel of the turn must be straightened before the road is finished.

______________ 8. Although he came from a humbel background, he reached the top of the legal profession.

______________ 9. The axel broke while we were in the tunnel.

LESSON 90

Words Ending in *ar, er,* and *or*

Many persons misspell words which end with an *er* sound. Although the *er* pronunciation is correct for most of these words, it is helpful to give the *ar* endings a slight *a* sound and the *or* endings a slight *o* sound when learning to spell them. Study the following words.

beggar	The poor beg′gar was wretched.
cedar	They cut down every ce′dar tree.
collar	The col′lar was too large.
polar	The po′lar bear was white as snow.
vinegar	The cider soon turned into very good vin′e gar.
carrier	Please call the mail car′ri er back.
consumer	The sale benefited each con sum′er.
employer	My em ploy′er bought a new typewriter.
jeweler	The jew′el er fixed my watch.
laborer	John is a la′bor er at the mill.
ledger	The entries were posted in the ledg′er.
shoulder	The football player injured his shoul′der.
voucher	A vouch′er indicated the amount of the sale.
ambassador	The foreign am bas′sa dor was present.
author	The au′thor of the book was famous.
conductor	The con duc′tor collected the tickets.
editor	L. C. Smith is ed′i tor of the magazine.
inventor	A world-famous in ven′tor was at the conference.
investor	She was a heavy in ves′tor in bonds.
rumor	The ru′mor spread throughout the city.
senator	Carolyn Jones is the new state sen′a tor.
traitor	The trai′tor died in exile.
visitor	Our vis′i tor stayed a few days.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

begg __ __

carri __ __

ced __ __

col __ __ r

auth __ __

employ __ __

jew __ __ __ __

pol __ __

con __ um __ r

labor __ __

le __ g __ __

vineg __ __

conduct __ __

edit __ __

sho __ ld __ __

v __ __ ch __ r

invent __ __

invest __ __

amba __ s __ d __ __

rum __ r

sen __ t __ __

tra __ t __ __

vis __ t __ __

☐ EXERCISE I

Cross out any misspelled words in each group of words. Write each misspelled word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. ambassador	consumar	beggar	________
2. cedar	collar	carriar	________
3. visitor	traitor	editor	________
4. inventor	investor	laboror	________
5. shouldar	polar	vinegar	________
6. ledger	vouchar	employer	________
7. visitor	auther	senator	________
8. rumor	conducter	jeweler	________

☐ EXERCISE II

Match each word in Column A with its meaning in Column B. Place the letter of the meaning in the blank in front of the word it defines.

COLUMN A	**COLUMN B**
1. ______ consumer	a. a member of the upper house of a legislative body
2. ______ employer	b. one who buys products
3. ______ author	c. one who betrays his or her country or group
4. ______ jeweler	d. one for whom others work
5. ______ conductor	e. one who uses money to make a profit or to draw interest
6. ______ editor	f. one who sells or makes jewelry
7. ______ inventor	g. one who writes stories, poems, or books
8. ______ investor	h. one who comes to see a person
9. ______ senator	i. one who leads an orchestra
10. ______ traitor	j. one who invents
11. ______ visitor	k. one who prepares books or magazines for publication

LESSON 91

Words Ending in *ant* and *ent*

The English language contains many words ending in *ant* and *ent*. Some of them are listed in Part 1 of this text (See Lessons 39 and 49). You can avoid difficulty in spelling these words by pronouncing the endings distinctly. Study the following list of words, paying careful attention to the endings. Try to visualize and pronounce the endings correctly.

abundant	There was an a bun′dant supply of food.
applicant	Are you an ap′pli cant for the position?
defendant	The de fend′ant was set free.
descendant	Mary is a de scend′ant of Thomas Jefferson.
emigrant	His mother was an em′i grant from Germany.
immigrant	Her father was an im′mi grant to America.
important	Your health is an extremely im por′tant matter.
predominant	Industry is the pre dom′i nant activity here.
restaurant	The new res′tau rant serves good food.
significant	It is sig nif′i cant that he arrived early.
tyrant	The mad king became a severe ty′rant.
apparent	It is ap par′ent that the house needs paint.
current	The October magazine is the cur′rent issue.
deficient	Her daily diet was de fi′cient in milk.
dependent	Children are de pend′ent upon their parents.
efficient	Ef fi′cient work is essential to success.
obedient	Mary was o be′di ent.
opponent	He finally overcame his strong op po′nent.
ornament	He hung the or′na ment on the tree.
prevalent	The contagious disease soon became prev′a lent.
resident	The lecturer was not a res′i dent of this city.
violent	A vi′o lent thunderstorm lashed the area.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

abund _ _ t

ap _ ar _ nt

op _ on _ nt

orn _ m _ nt

vi _ l _ nt

_ mm _ grant

appl _ c _ _ _

d _ pend _ _ _

des _ end _ _ _

predom _ n _ _ _

d _ f _ nd _ _ t

t _ r _ _ t

cu _ _ _ nt

re _ id _ _ t

ef _ ic _ _ nt

obed _ _ nt

prev _ l _ _ t

rest _ _ r _ nt

signif _ c _ nt

defi _ _ _ nt

import _ _ _

☐ EXERCISE I

In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. abundant applicant apparant ____________
2. dependent defendent descendant ____________
3. obedient opponent ornament ____________
4. immigrant emmigrant important ____________
5. prevalent deficient predominent ____________
6. violant resident tyrant ____________
7. current deficiant efficient ____________
8. tyrent current violent ____________

☐ EXERCISE II

Supply *ant* or *ent* in each word. In the blank following each word, rewrite the complete word.

1. effici ______ ____________
2. import ______ ____________
3. viol ______ ____________
4. signific ______ ____________
5. abund ______ ____________
6. preval ______ ____________
7. restaur ______ ____________
8. oppon ______ ____________
9. descend ______ ____________
10. obedi ______ ____________
11. ornam ______ ____________
12. emigr ______ ____________
13. tyr ______ ____________
14. appar ______ ____________
15. depend ______ ____________
16. resid ______ ____________
17. applic ______ ____________
18. curr ______ ____________
19. defend ______ ____________
20. predomin ______ ____________
21. immigr ______ ____________
22. defici ______ ____________

LESSON 92

Words Ending in *ance* and *ence*

What was said in Lesson 91 about words ending in *ant* and *ent* applies equally to words ending in *ance* and *ence*. Careful pronunciation of the *a* and *e* sounds will help you overcome spelling difficulties with words of this type.

Review the words listed in Lessons 35 and 45. Then study the following words carefully. Mastery of these three sets of words will eliminate most spelling mistakes due to the confusion of *ance* and *ence*.

abundance	Rain caused an a bun′ dance of crops.
admittance	Our tickets gave us ad mit′ tance to the first show.
annoyance	The speaker at the banquet showed an noy′ ance at the interruption.
attendance	The at tend′ ance at the meeting was large.
conveyance	They went in every kind of con vey′ ance that was available to them.
hindrance	Bad roads were a hin′ drance to speed.
ignorance	Lack of study was the cause of such ig′ no rance.
resemblance	The re sem′ blance in looks was remarkable.
resistance	No re sist′ ance seemed too great to overcome.
temperance	Someone advised us to have tem′ per ance in all things.
perseverance	Per′ se ver′ ance will overcome most difficulties.
audience	The au′ di ence cheered for the speaker.
competence	Her com′ pe tence at the task was unquestionable.
excellence	She noted the ex′ cel lence of his manners.
innocence	The accused claimed complete in′ no cence.
intelligence	The child's teachers praised her in tel′ li gence.
interference	The meeting ended without further in′ ter fer′ ence.
negligence	He was fired for neg′ li gence of duty.
inference	Her in′ fer ence was based upon facts.
obedience	Strict o be′ di ence is demanded in the army.
reverence	The memory of heroes is held in rev′ er ence.
violence	The mob continued its acts of vi′ o lence.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

conv ___ ___ ___ ___ nce

in ___ o ___ ___ nce

hindr ___ ___ ___ ___

an ___ oy ___ nce

interf ___ ___ ___ nce

rever ___ ___ ___ ___

comp ___ t ___ n ___ ___

ign ___ r ___ ___ c ___

at ___ ___ nd ___ ___ ___ e

resemb ___ ___ ___ ___ ___

res ___ ___ t ___ n ___ e

ex ___ ___ l ___ ___ nce

a ___ di ___ ___ ce

negl ___ g ___ nce

inf ___ r ___ nce

obed ___ ___ nce

vi ___ l ___ nce

abund ___ ___ ___ ___

per ___ ev ___ r ___ nce

temp ___ r ___ ___ ce

admi ___ t ___ ___ ce

intel ___ ___ g ___ nce

☐ EXERCISE I

In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. perseverence annoyance intelligence ______________
2. assistance residance assurance ______________
3. resemblance reverence resistance ______________
4. audience abundence admittance ______________
5. obedience inferance appearance ______________
6. resistance remittance innocence ______________
7. conveyence competence conference ______________
8. nuisance presence hindrence ______________
9. preference reference temperence ______________
10. maintenance negligance confidence ______________

☐ EXERCISE II

Supply *ance* or *ence* in each word. In the blank following each word, rewrite the complete word.

1. abund ______ ______________
2. innoc ______ ______________
3. obedi ______ ______________
4. hindr ______ ______________
5. interfer ______ ______________
6. admitt ______ ______________
7. infer ______ ______________
8. resist ______ ______________
9. annoy ______ ______________
10. rever ______ ______________
11. temper ______ ______________
12. neglig ______ ______________
13. attend ______ ______________
14. convey ______ ______________
15. compet ______ ______________
16. resembl ______ ______________
17. persever ______ ______________
18. excell ______ ______________

LESSON 93

Words Ending in *ise, ize,* and *yze*

The numerous words ending in *ise, ize,* and *yze* are frequently misspelled. The best way to learn to spell these words correctly is to memorize them, paying close attention to their endings.

despise	Most persons de spise′ lying and cheating in others.
comprise	What items does the new outline com prise′?
devise	We need to de vise′ a plan.
disguise	His dis guise′ entirely changed his appearance.
enterprise	Robert began another business en′ ter prise.
franchise	The city extended the old water fran′ chise for a year.
revise	The writer was asked to re vise′ the story.
supervise	Who is to su′ per vise our work?
antagonize	Let us not an tag′ o nize the umpire.
apologize	You should a pol′ o gize for your unkind remark.
authorize	Did the manager au′ thor ize this change?
baptize	The preacher wanted to bap tize′ the baby at once.
economize	Higher labor costs required us to e con′ o mize.
emphasize	It is necessary to em′ pha size the fact.
equalize	The new plan will e′ qual ize the tax burden.
organize	The bowlers decided to or′ gan ize a club.
standardize	Dictionaries have helped to stand′ ard ize pronunciation.
summarize	The last speaker failed to sum′ ma rize her points.
sympathize	We did not sym′ pa thize with her views.
utilize	Many machines u′ ti lize electricity for power.
visualize	I can vis′ u al ize his face.
analyze	This wage problem is difficult to an′ a lyze.
paralyze	The blow seemed to par′ a lyze his arm.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

franc __ i __ e
revi __ __
par __ l __ __ e
dev __ __ __
d __ sg __ __ se
compr __ __ __

eq __ al __ __ __
org __ ni __ __
a __ th __ ri __ e
vis __ __ li __ __
sum __ ar __ __ e
em __ __ asi __ e

sup __ rv __ __ __
enterp __ __ __ __
apol __ g __ __ __
e __ on __ mi __ __
s __ mp __ th __ __ __
stand __ rd __ __ __

bapt __ __ __
antag __ ni __ e
d __ spi __ __
ut __ li __ __
an __ l __ __ e

☐ EXERCISE

In each sentence, cross out the incorrect word in parentheses. Then write the correct word in the blank.

1. Will we be able to obtain a (franchise—franchize) for a major league team in the near future? ____________________
2. Can you (devize—devise) another program that will fit the schedule better? ____________________
3. The union leaders will try to (standardize—standardyze) member regulations by the next meeting. ____________________
4. The scientists are trying to (analize—analyze) each of the compounds and each of the mixtures. ____________________
5. The generals felt that the aggressive move would (antagonise—antagonize) the enemy. ____________________
6. Only the supervisor can (authorize—authorise) the purchase of new equipment. ____________________
7. We found it was necessary to (supervize—supervise) the new employees in our company very carefully. ____________________
8. (Summarise—Summarize) all the speaker's statements in one good paragraph. ____________________
9. To be a good painter, one must be able to (visualise—visualize) both color and form as it will appear on canvas. ____________________
10. (Emphasize—Emphasyze) the important points in your outline, and your speech will be an effective one. ____________________
11. Did the manager feel that she would be able to (utilise—utilize) all the workers in the new plant? ____________________
12. If Alex would (revize—revise) the story, he might be able to get it published. ____________________

LESSON 94

Words Ending in *ary, ery,* and *ory*

Words ending in *ary, ery,* and *ory* are often misspelled due to the similarity of their endings. In learning these words, pay special attention to the *a, e,* or *o* sound in the next-to-last syllable.

boundary	The state bound′ ar y on the west is a river.
contrary	Your statement is con′ tra ry to the facts.
customary	We followed the cus′ tom ar′ y procedure.
elementary	The new el′ e men′ ta ry school has four grades.
literary	We promptly joined the monthly lit′ er ar′ y society.
ordinary	The trial was just an or′ di nar′ y affair.
summary	The book sum′ ma ry reviewed the main points.
voluntary	Her contribution was entirely vol′ un tar′ y.
artillery	The parade included a piece of ar til′ ler y.
celery	There was too much cel′ er y in the salad.
discovery	The dis cov′ er y of oil brought prosperity.
recovery	Complete re cov′ er y followed the depression.
millinery	This year the women opened a new mil′ li ner′ y store.
misery	The injured man was in great mis′ er y.
mystery	The magazine contained two mys′ ter y stories.
accessory	She was an ac ces′ so ry in the crime.
depository	The City National Bank is the chief de pos′ i to′ ry.
directory	His address is in the telephone di rec′ to ry.
history	The book contains the his′ to ry of slavery.
introductory	Ms. Brown had to make some in′ tro duc′ to ry remarks.
memory	The old man's mem′ o ry for details is remarkable.
preparatory	Last year Alicia went to a college pre′ par a to′ ry school.
territory	This ter′ ri to′ ry was first settled by the Indians.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

bo __ nd __ __ y
artil __ __ ry
cel __ __ y
intr __ du __ to __ y
contr __ __ y
ac __ es __ __ __ y

cust __ m __ __ __
disc __ v __ ry
mil __ __ n __ __ y
re __ ov __ ry
elem __ nt __ __ __
lit __ r __ ry

sum __ __ ry
hist __ __ __
mem __ __ __
prep __ r __ t __ ry
vol __ nt __ ry
ter __ __ t __ ry

mis __ ry
m __ st __ __ __
ord __ n __ ry
depos __ t __ __ __
dire __ t __ __ __

☐ EXERCISE I

In each sentence, find any misspelled words. Write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

________________ **1.** In his introductary remarks, the author asked us to commit a quotation to memory.

________________ **2.** At every meeting of the Litarery Society, Mrs. Burnett presents a summary of a new book.

________________ **3.** John's actions in helping with the recovery of the missing property were completely voluntery.

________________ **4.** It is customery for the volunteers to load each new piece of defense artillery.

________________ **5.** You will find a list of college preparratory schools in the current College Directory.

________________ **6.** It is a mystery to the jury how such a person could have been an acessory to the crime.

________________ **7.** That is the customary treatment for a person with a loss of memry.

________________ **8.** I was in misry during my recovery.

________________ **9.** Chop the cellery fine, or your sauce will be lumpy.

________________ **10.** In one of our geography lessons, we were asked to mark the boundery between France and Italy.

________________ **11.** This summary is contrary to an earlier report.

________________ **12.** The history of the depository is a great mystry.

☐ EXERCISE II

Supply *ary*, *ery*, or *ory* in each word. In the blank following each word, rewrite the complete word.

1. discov _______ ________________

2. direct _______ ________________

3. bound _______ ________________

4. deposit _______ ________________

5. introduct _______ ________________

6. element _______ ________________

7. summ _______ ________________

8. custom _______ ________________

9. mem _______ ________________

10. access _______ ________________

LESSON 95

Words Ending in *cian, cion, sion,* and *tion*

The final group of words with similar endings presented in this text is the group of words ending in *cian, cion, sion,* and *tion.* All these words end with a *shən* sound. When memorizing these words, it is necessary to pay close attention to their endings.
The following words are among the most frequently used words of this group. Study them carefully.

magician (jish′ an)	The ma gi′ cian used sleight of hand.
musician (zish′ an)	The mu si′ cian played skillfully.
physician (zish′ an)	The sick man needs a phy si′ cian.
politician (tish′ an)	The pol′ i ti′ cian asked for votes.
suspicion (pish′ un)	Our sus pi′ cion required proof.
admission (mish′ un)	Ad mis′ sion to the game was free.
conclusion (kloo′ zhun)	We came to the same con clu′ sion.
confusion (fu′ zhun)	Great con fu′ sion followed the wreck.
division (vizh′ un)	The di vi′ sion was simple.
expression (presh′ un)	His ex pres′ sion was unchanged.
impression (presh′ un)	Elena made a fine im pres′ sion.
permission (mish′ un)	Jason had our per mis′ sion.
persuasion (swa′ zhun)	He yielded to per sua′ sion.
procession (sesh′ un)	We followed the pro ces′ sion.
admiration (ra′ shun)	Her act deserved ad′ mi ra′ tion.
ammunition (nish′ un)	The soldiers used am′ mu ni′ tion.
collection (lek′ shun)	Roberta has a fine col lec′ tion of stamps.
construction (struk′ shun)	Con struc′ tion of the roof began.
decoration (ra′ shun)	Cut flowers are a beautiful dec′ o ra′ tion.
fiction (fik′ shun)	A fable is fic′ tion.
occupation (pa′ shun)	Her oc′ cu pa′ tion is dentistry.
retention (ten′ shun)	Practice improves re ten′ tion.

☐ VISUAL DRILL

As you look at each word, try to visualize the whole word with the missing letters in place. Then check yourself by looking at the word as it appears earlier in the lesson. Finally, fill in the blanks. Check the spelling again, and make any necessary corrections.

suspi __ __ __ n

magi __ __ __ n

music __ __ __

fic __ __ __ n

ph __ si __ __ __ n

admis __ __ __ n

confu __ __ __ n

con __ lus __ __ n

pol __ ti __ __ __ n

adm __ rat __ __ __

expre __ __ __ __ n

am __ unit __ __ n

o __ cupa __ __ __ n

impre __ __ __ __ n

dec __ ra __ __ __ n

persu __ s __ __ __

☐ EXERCISE I

In each group of words, cross out any misspelled words. Then write each word correctly. If there are no misspelled words, write a *C* in the blank.

1. persuasion	physician	politicion	______
2. admiration	admiscion	ammunition	______
3. construcsion	conclusion	confusion	______
4. occupation	musicion	collection	______
5. retention	expression	impression	______
6. fiction	magision	suspicion	______
7. decorasion	division	procession	______

☐ EXERCISE II

Supply *cian, cion, sion,* or *tion* in each word. In the blank following each word, rewrite the complete word.

1. confu ______ ______
2. occupa ______ ______
3. physi ______ ______
4. ammuni ______ ______
5. persua ______ ______
6. decora ______ ______
7. magi ______ ______
8. admis ______ ______
9. collec ______ ______
10. expres ______ ______
11. musi ______ ______
12. permis ______ ______
13. construc ______ ______
14. impres ______ ______
15. politi ______ ______
16. reten ______ ______
17. proces ______ ______
18. fic ______ ______
19. suspi ______ ______
20. conclu ______ ______
21. divi ______ ______

POSTTEST

A. In each sentence, find the misspelled words. Write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

__________ **1.** The captain made sure all the cargoe was safely aboard the ship.

__________ **2.** Dr. Ruiz, an iminent physicist, will speak at the university on Friday.

__________ **3.** Which resterant is your favorite?

__________ **4.** It is difficult to visuelize the amount of garbage generated by the average American family.

__________ **5.** Paula has a penchent for keeping things organized.

__________ **6.** The brothers' feelings of affection were mutuel.

__________ **7.** Was your house in New Mexico built of adoby?

__________ **8.** Joe was surprised by the absense of clutter in his daughter's room.

__________ **9.** Try not to arrouse suspicion.

__________ **10.** Do you eat at that cafe often?

__________ **11.** Is your car a convertable?

__________ **12.** Jennifer asked her secretary to duplacate the manuscript.

__________ **13.** A college degree is esential to enter that field.

__________ **14.** Her grandfather was an imigrent to this country.

__________ **15.** Were you able to find enough investers to back your catering company?

__________ **16.** His sister works at the libery.

__________ **17.** Carlos often plays mischifous pranks.

__________ **18.** The price of a haircut at that salon is outragis!

__________ **19.** How much is your porcion of the inheritance?

__________ **20.** Lt. Sanders will be transfered to a base in Oklahoma.

Each correct answer is worth 1 point. Total score: 20 points

B. In each sentence, cross out the incorrect word in parentheses. Then write the correct word in the blank.

1. The boy received an (acolade, accolade) for saving his friend's life. ____________________
2. (Apparantly, apparently) the car swerved to miss the school bus. ____________________
3. Do you know the difference (between, bitween) their ages? ____________________
4. Clothes made of (coarce, coarse) materials are not usually comfortable. ____________________
5. Have you ever ridden in a (dirigible, derigable)? ____________________
6. His supervisor gave him a (faverable, favorable) report. ____________________
7. The child scribbled on the walls with an (indelible, indelable) marker. ____________________
8. Judge Domingues is known for being (just, jest). ____________________
9. What will my monthly (morgage, mortgage) payments be? ____________________
10. The Lees expect their children to be (obediant, obedient). ____________________
11. The attorney tried to (pursuade, persuade) the jury that the defendant was innocent. ____________________
12. Did the American Revolution (precede, preceed) the Russian Revolution? ____________________
13. Are you (quite, quiet) sure you don't want to come? ____________________
14. I (received, recieved) the package you sent me. ____________________
15. The doctor (refered, referred) Kristin to a specialist. ____________________
16. Sean will be a (sophamore, sophomore) this year. ____________________
17. Are you (using, useing) the toolbox? ____________________
18. Do you plan to vote (aginst, against) the proposition? ____________________

Each correct answer is worth 1 point.	Total score: 18 points

C. Each sentence contains one or more spelling errors. Cross out each misspelled word, then write the word correctly above it.

1. Although he is a celebrity, he is actally a humbel person.
2. This country waists a considerible amount of its wealth.
3. As an acolade for your community service, I would like to pressent you with this medal.
4. The kitten climbed the tree easily but was not able to dessend.
5. Is your grandfather loosing his memery altogetther?
6. The park is achally the site of an old battelfield.
7. Threw her kindness, Leticia perssaded the child to trust her.
8. The mayor managed the econamy well.
9. The convertable was stationery when it was struck from behind.
10. He was certan that he would never get over the greif of lossing his brother.
11. The cheif issue that devided Congress was the proposed package of spending cuts.
12. Calvin ecspected to begin work at once.
13. She couldn't deside which door was the main entrence to the building.
14. His behavior seams verry strange to me.
15. Let the games commense!
16. The movie was so frightening, I was completly paralized with fear.
17. He prophecied a plage for the people of that country.
18. Ninteen itims had been stolen from the store.
19. The man at the servise station carefully rinced my windshield.
20. Their parents had stickly forbidden them from rassling in the living room.

Each correct answer is worth 1 point.	Total score: 20 points

D. The following letter contains many spelling errors. Cross out each misspelled word. Then write the word correctly above the misspelled word.

Dear Kim:

The confrence of high school teachers began on Saterday, August twelvth and lasted a hole week. The first speaker was terible. Not a sylable of his speech was audable, and the anoyence of his audience was considerible.

My favorite speaker spoke about an instructer's ability to inspire students to delvip their abilities and exccell in all areas of life. The audience was unamimous in proclaiming her a briliant speaker.

The information I gained was generaly helpful, and will probibly improve my handleing of classroom situations. On the last day, the President of the American Counsel of High School Teachers sumarized the significent points. I can't wait for next year!

Sincerely yours,

Each correct answer is worth 1 point. Total score: 20 points

E. In each group of words, cross out any misspelled words. Then write each word correctly in the blank. If there are no misspelled words, write a *C* in the blank.

1. battlefield nickle twelfth ____________

2. actually item vizualise ____________

3. certain mischeivus unanimous ____________

4. anoyence decide excel ____________

5. conference eminent indelable ____________

6. flexable mutual remittance ____________

7. summarize present porcion ____________

8. significent council brilliant ____________

9. management penchent just ____________

10. memory quite Saterday ____________

Each correct answer is worth 1 point. Total score: 10 points

ANSWER KEY

☐ Pretest

A: 1. accessible, 2. attendance, 3. because, 4. chocolate, 5. decorations, 6. disagree, 7. forgotten, 8. jealous, 9. C, 10. original, 11. perseverance, 12. practical, 13. quantity, 14. respectively, 15. separate, 16. temporary, 17. tuition, 18. Would, 19. straight, 20. impression

B: 1. advise, 2. authorize, 3. can't, 4. communication, 5. divisible, 6. embarrass, 7. eclairs, 8. faculty, 9. examination, 10. fundamental, 11. horrible, 12. misspelled, 13. lightning, 14. pamphlet, 15. policy, 16. pronounce, 17. recall, 18. recovery

C: The following words are misspelled in the sentences.
1. whether, warrant; 2. coincide, biennial; 3. confusion, policy; 4. official, policy; 5. preparation, patience; 6. ignorant; 7. surprise, shrieked; 8. descendant; 9. devise, gymnasium; 10. Religious, privileges; 11. unusual, rhythm; 12. Violence; 13. achievements, administration; 14. sugar; 15. chairperson, standardize; 16. machinery; 17. Maybe, asphalt; 18. Preparations, buffet; 19. fiery, toward; 20. existence

D: The underlined words are misspelled in the letter.

Dear Sirs,

I've discovered that some of your products contain larger quantities of a hazardous chemical than is allowable. As the chairperson of Consumers for the Environment, I'm especially concerned about the effect large amounts of this chemical will have on the environment.

Our country's citizens must use their influence as consumers to stop pollution before irreparable harm is done. Many customers now use their knowledge of environmental concerns to choose products.

I am asking for your cooperation in changing your products to eliminate hazardous chemicals. I appreciate anything you can do toward making your products safer.

Sincerely yours,

E: 1. satchel, 2. bachelor, 3. veil, 4. scissors, 5. carrying, 6. enterprise, 7. height, 8. descendant, 9. drowned, 10. ledger

☐ Lesson 80

Exercise I: 1. disadvantage, 2. advantageous, 3. unnoticeable, 4. outrageous, 5. argument, arguable; 6. judgment, judgeship, judgmatic; 7. awesome, awful; 8. useful, useless, useable, usage; 9. careful, careless; 10. wholesome, wholly

Exercise II: 1. weird, 2. height, 3. ancient, 4. neither, 5. foreign, 6. species, 7. counterfeit

☐ Lesson 81

Exercise I: 1. conceit, 2. perceive, 3. achieve, 4. twentieth, 5. received, 6. fiend, 7. shriek, 8. C

Exercise II: 1. achieve, 2. ceiling, 3. conceit, 4. conceived, 5. fiend, 6. fierce, 7. fortieth, 8. grievance, 9. perceive, 10. receipts, 11. received, 12. shriek, 13. veil, 14. weighed, 15. wield

☐ Lesson 82,

Exercise: 1. tallies, 2. flies, 3. desires, 4. loaves, 5. data, 6. cargoes, 7. neighbors, 8. stimuli, 9. attorneys, 10. ponies, 11. stitches, 12. children, 13. heroes, 14. passes, 15. solos, 16. faces, 17. men, 18. masses, 19. parties, 20. debts, 21. receipts, 22. babies, 23. businesses, 24. valleys, 25. secretaries, 26. duties, 27. pieces, 28. geese, 29. allies, 30. taxes, 31. mice, 32. typists, 33. acts, 34. houses, 35. axes, 36. ladies, 37. cotton, 38. economies, 39. apparatus, 40. moose, 41. clothes, 42. consortia

☐ Lesson 85

Exercise I: 1. b, 2. c, 3. d, 4. a

Exercise II: 1. c, 2. h, 3. e, 4. a, 5. i, 6. b, 7. d, 8. g, 9. f

Exercise III: A. 1. go away from, 2. go forward, 3. to go between, 4. to go back
B. 1. send through, 2. send across, 3. send to, 4. send back
C. 1. carry in, 2. carry away, 3. carry out, 4. carry across
D. 1. write across, 2. write under, 3. write in, 4. write before

☐ Lesson 86

Exercise: 1. desirable, 2. probable, 3. disagreeable, 4. Admirable, 5. honorable, 6. capable, 7. miserable, 8. reliable, 9. acceptable, 10. reasonable, 11. applicable, 12. favorable, 13. charitable, 14. excusable, 15. considerable

☐ Lesson 87

Exercise: 1. feasible, 2. eligible, 3. chargeable, 4. permissible, 5. accessible, 6. responsible, 7. C, 8. admissible, 9. contemptible, 10. susceptible, 11. defensible. 12. divisible, 13. indelible, 14. insensible, 15. convertible, 16. reversible, 17. collectible, 18. invisible, 19. C, 20. plausible, 21. audible, 22. indelible

☐ Lesson 88

Exercise: 1. inability, 2. mispronounce, 3. excel, 4. irrigation, 5. unnecessary, 6. arouse, 7. irreparable, 8. illiterate, 9. exile, 10. beneficial, 11. inauguration, 12. misfortune, 13. unusual, 14. exhibit

☐ Lesson 89

Exercise I: 1. axle, 2. trifle, 3. novel, 4. meddle, 5. wrestle, 6. acquittal, 7. parcel, 8. resemble, 9. struggle, 10. whistle, 11. quarrel, 12. tremble, 13. label, 14. humble, 15. tunnel, 16. liable

Exercise II: 1. liable, 2. C, 3. whistle, 4. struggle, 5. vessel, 6. meddle, 7. angle, 8. humble, 9. axle

☐ Lesson 90

Exercise I: 1. consumer, 2. carrier, 3. C, 4. laborer, 5. shoulder, 6. voucher, 7. author, 8. conductor

Exercise II: 1. b, 2. d, 3. g, 4. f, 5. i, 6. k, 7. j, 8. e, 9. a, 10. c, 11. h

☐ Lesson 91

Exercise I: 1. apparent, 2. defendant, 3. C, 4. emigrant, 5. predominant, 6. violent, 7. deficient, 8. tyrant

Exercise II: 1. efficient, 2. important, 3. violent, 4. significant, 5. abundant, 6. prevalent, 7. restaurant, 8. opponent, 9. descendant, 10. obedient, 11. ornament, 12. emigrant, 13. tyrant, 14. apparent, 15. dependent, 16. resident, 17. applicant, 18. current, 19. defendant, 20. predominant, 21. immigrant, 22. deficient

☐ Lesson 92

Exercise I: 1. perseverance, 2. residence, 3. C, 4. abundance, 5. inference, 6. C, 7. conveyance, 8. hindrance, 9. temperance, 10. negligence

Exercise II: 1. abundance, 2. innocence, 3. obedience, 4. hindrance, 5. interference, 6. admittance, 7. inference, 8. resistance, 9. annoyance, 10. reverence, 11. temperance, 12. negligence, 13. attendance, 14. conveyance, 15. competence, 16. resemblance, 17. perseverance, 18. excellence

☐ Lesson 93

Exercise: 1. franchise, 2. devise, 3. standardize, 4. analyze, 5. antagonize, 6. authorize, 7. supervise, 8. Summarize, 9. visualize, 10. Emphasize, 11. utilize, 12. revise

☐ Lesson 94

Exercise I: 1. introductory, 2. Literary, 3. voluntary, 4. customary, 5. preparatory, 6. accessory, 7. memory, 8. misery, 9. celery, 10. boundary, 11. C, 12. mystery

Exercise II: 1. discovery, 2. directory, 3. boundary, 4. depository, 5. introductory, 6. elementary, 7. summary, 8. customary, 9. memory, 10. accessory

☐ Lesson 95

Exercise I: 1. politician, 2. admission, 3. construction, 4. musician, 5. C, 6. magician, 7. decoration

Exercise II: 1. confusion, 2. occupation, 3. physician, 4. ammunition, 5. persuasion, 6. decoration, 7. magician, 8. admission, 9. collection, 10. expression, 11. musician, 12. permission, 13. construction, 14. impression, 15. politician, 16. retention, 17. procession, 18. fiction, 19. suspicion, 20. conclusion, 21. division

☐ Posttest

402

A: 1. cargo, 2. eminent, 3. restaurant, 4. visualize, 5. penchant, 6. mutual, 7. adobe, 8. absence, 9. arouse, 10. C, 11. convertible, 12. duplicate, 13. essential, 14. immigrant, 15. investors, 16. library, 17. mischievous, 18. outrageous, 19. portion, 20. transferred

B: 1. accolade, 2. Apparently, 3. between, 4. coarse, 5. dirigible, 6. favorable, 7. indelible, 8. just, 9. mortgage, 10. obedient, 11. persuade, 12. precede, 13. quite, 14. received, 15. referred, 16. sophomore, 17. using, 18. against

C: The following words are misspelled in the sentences.
1. actually, humble; 2. wastes, considerable; 3. accolade, present; 4. descend; 5. losing, memory, altogether; 6. actually, battlefield; 7. Through, persuaded; 8. economy; 9. convertible, stationary; 10. certain, grief, losing; 11. chief, divided; 12. expected; 13. decide, entrance; 14. seems, very; 15. commence; 16. completely, paralyzed; 17. prophesied, plague; 18. Nineteen, items; 19. service, rinsed; 20. strictly, wrestling

D: The underlined words are misspelled in the letter.

Dear Kim:

The conference of high school teachers began on Saturday, August twelfth and lasted a whole week. The first speaker was terrible. Not a syllable of his speech was audible, and the annoyance of his audience was considerable.

My favorite speaker spoke about an instructor's ability to inspire students to develop their abilities and excel in all areas of life. The audience was unanimous in proclaiming her a brilliant speaker.

The information I gained was generally helpful, and will probably improve my handling of classroom situations. On the last day, the President of the American Council of High School Teachers summarized the significant points. I can't wait for next year!

Sincerely yours,

E: 1. latter, 2. visualize, 3. mischievous,
4. annoyance, 5. indelible,
6. flexible, 7. portion, 8. significant,
9. penchant, 10. Saturday

Bibliography

Sources Adapted from Project Prepare

Cambridge Exercise Book for the Writing Skills Test, 1981. New York: Cambridge.

Cambridge Exercise Book for the Mathematics Test, 1982. New York: Cambridge.

Test Your Vocational Aptitude, 1976. New York: Arco.

Project Tune-Up Sources

Gateways to Correct Spelling, 1991. Austin: Steck Vaughn.

GED Science, 1991. Austin: Steck Vaughn.

GED Social Studies, 1992. Chicago: Contemporary.

Preparation for the Scholastic Aptitude Test, 1989. New York: Arco.

Nursing School Entrance Examinations, 1994. New York: Macmillan.